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DxMONITOR

Animal Health Report

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Spring 1993

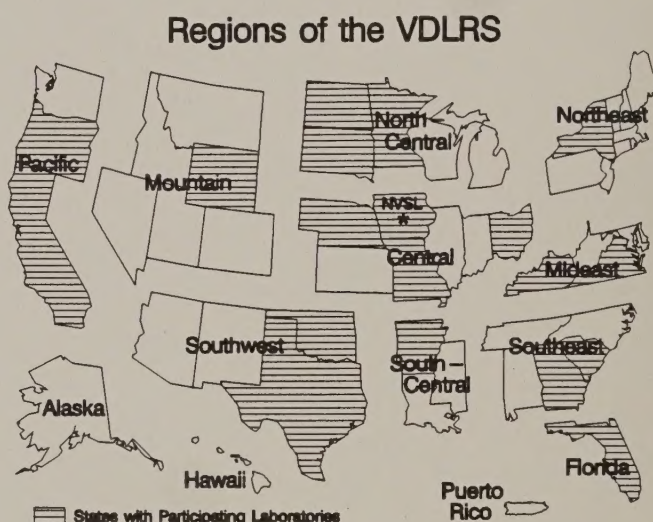
The DxMONITOR Animal Health Report is distributed quarterly as part of the Veterinary Diagnostic Laboratory Reporting System (VDLRS). The VDLRS is a cooperative effort of the American Association of Veterinary Laboratory Diagnosticians (AAVLD), the United States Animal Health Association (USAHA), and the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA:APHIS). The purpose of the DxMONITOR is to report trends of confirmed disease diagnoses and animal health data collected from veterinary diagnostic laboratories and the USDA:APHIS.

Caution should be taken when extrapolating information reported in the DxMONITOR due to the inherent biases of submitted specimens. Trends should be interpreted with care. An increase in the number of positive tests for a given diagnosis/agent may be the result of a true increase in prevalence, however, it may only reflect a new State testing requirement, a heightened awareness of the condition, or an increase in the number of laboratories reporting data.

For this issue, the disease reporting period for new data was October 1, 1992, through December 31, 1992. Data have been reported by diagnostic laboratories in the States indicated below, from the National Veterinary Services Laboratories (NVSL), and from the APHIS:Veterinary Services program staffs.

Abbreviations for regions used in this issue are:

AK = Alaska
CL = Central
FL = Florida
HI = Hawaii
ME = Mideast
MN = Mountain
NC = North-Central
NE = Northeast
PA = Pacific
PR = Puerto Rico & U.S. Virgin Islands
SC = South-Central
SE = Southeast
SW = Southwest
UNK = Unknown



Contributing Laboratories

The following laboratories have contributed data reported in the DxMONITOR Animal Health Report. Thanks to all of the individuals at these laboratories who have worked to make this report possible.

- Arkansas Livestock and Poultry Commission Diagnostic Laboratory (Little Rock, AR)
- California Veterinary Diagnostic Laboratory System (Davis, CA)
- Bureau of Diagnostic Laboratories, Florida Department of Agriculture (Kissimmee, FL)
- Veterinary Diagnostic Laboratory, University of Georgia (Athens, GA)
- Veterinary Diagnostic and Investigational Laboratory, University of Georgia (Tifton, GA)
- Veterinary Diagnostic Laboratory, Iowa State University (Ames, IA)
- National Veterinary Services Laboratories (Ames, IA)
- Breathitt Veterinary Center, Murray State University (Hopkinsville, KY)
- Livestock Disease Diagnostic Center, University of Kentucky (Lexington, KY)
- Minnesota Veterinary Diagnostic Laboratory, University of Minnesota (St. Paul, MN)
- Veterinary Medical Diagnostic Laboratory, University of Missouri-Columbia (Columbia, MO)
- Veterinary Diagnostic Center, University of Nebraska-Lincoln (Lincoln, NE)
- New York State Veterinary Diagnostic Laboratory, Cornell University (Ithaca, NY)
- North Dakota Veterinary Diagnostic Laboratory, North Dakota State University (Fargo, ND)
- Reynoldsburg Laboratory, Ohio Department of Agriculture (Reynoldsburg, OH)
- Oklahoma Animal Disease Diagnostic Laboratory, Oklahoma State University (Stillwater, OK)
- Veterinary Diagnostic Laboratory, Oregon State University (Corvallis, OR)
- Clemson Diagnostic Laboratory, Clemson University (Columbia, SC)
- Animal Disease Research and Diagnostic Laboratory, South Dakota State University (Brookings, SD)
- Texas Veterinary Medical Diagnostic Laboratory, Texas A&M University (College Station, TX)
- Bureau of Laboratory Services, Virginia Department of Agriculture and Consumer Services (Richmond, VA)
- Wyoming State Veterinary Laboratory (Laramie, WY)

Lab Notes

This section presents short descriptions of current investigations, outbreaks, or events of potential interest to diagnostic laboratories. The purpose is to provide a forum for timely exchanges of information about veterinary diagnostic laboratory activities. Submissions from nonparticipating laboratories are welcome.

Antibodies to Porcine Reproductive and Respiratory Syndrome (PRRS) Virus in Swine in the United States

In a review of the National Veterinary Services Laboratories (NVSL) survey of sera from cull breeding swine, the prevalence rates for infection with PRRS virus among 10 of the 11 States tested ranged from four to roughly 20 percent. None of the sera from the 11th State were positive. At the 1:20 serum dilution, 457 of the 6,264 sera tested were positive, an overall rate of seven percent. While those figures attest to the widespread nature of the virus, the percent of positive sera appears not to be a good indicator of the actual rate of infection in the swine population. During the third quarter of calendar year 1992, over 27 percent (2,743 of 10,123 samples) of all porcine sera tested were positive by immunofluorescence assay (IFA) for PRRS antibody. Nearly four times as many sera were positive as in the survey of cull breeders. Many of those samples came from clinically ill pigs, but others were from herds free of clinical signs that were being tested to confirm absence of infection. Positive sera were detected from all of the 16 States that submitted 15 or more samples.

The disparity of positive tests between samples from cull breeding swine and routine submissions is part of the growing body of evidence that antibodies measurable by IFA are relatively short-lived and that a truer picture of the incidence of herd infection may be obtained if blood is collected from pigs of nursery to finisher ages. The exceptions would be on those farms where there has been recent introduction of the virus into breeding age animals.

In summary, IFA tests for PRRS virus antibodies indicate that: (1) PRRS virus is very widespread and (2) the IFA as a test to detect herd infection with PRRS virus should be conducted on sera from young pigs or breeding animals that have had recent signs.

Contact: Dr. Merwin Frey. Diagnostic Virology

Laboratory, NVSL, (515) 239-8551.

Reported Rabies Cases in New England, Calendar Year 1992

The total number of rabies cases in New England (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island and Vermont) in 1992 (935) represents a 413 percent increase over the 226 cases confirmed in 1991.

Terrestrial wildlife accounted for 94.4 percent of all cases (883). The raccoon was the most commonly affected wild animal accounting for 81.8 percent of all cases (765), followed by the skunk at 9.6 percent (90), fox at 2.2 percent (21), and woodchuck at 0.8 percent (7). Thirty-four rabid bats were diagnosed in 1992 representing 3.6 percent of all reported cases.

Rabies was found in 18 domestic animals representing 1.9 percent of all cases. There were 13 rabid cats, one dog, two sheep, one horse and one cow. Of the 13 rabid cats, 12 were confirmed to be infected with the raccoon strain and one with the red fox strain of rabies. The single rabid dog found in Vermont was infected with fox-strain rabies.

Contact: Dr. William G. Smith, APHIS Veterinarian in Charge, New England Area Office, (508) 865-1421.

The *Salmonella enteritidis* Situation in the United States

From a peak of 77 *Salmonella enteritidis* (SE) outbreaks in humans in 1989, the annual total declined to 67 in 1990, 67 in 1991, and 56 in 1992. However, the number of egg-related outbreaks has not shown a similar consistent decrease with 23 reported in 1990, 13 in 1991, and 20 so far in 1992.

S. enteritidis is still concentrated mainly in the Northeastern quadrant of the U.S. where 85 percent

Lab Notes

of the outbreaks and 77 percent of the cases were reported, even though this area has only 45 percent of the U.S. population and 34 percent of the egg-layer chickens.

The number of human deaths attributed to SE has decreased from 14 in 1989 to two in 1990, three in 1991, and two in 1992.

For the 55 egg-related outbreaks:

In 13 the source flock could not be determined.

In one an egg trace is in progress.

Tracebacks from 41 outbreaks led to 32 flocks:

Eight flocks had been depopulated prior to test.

Two were negative on test for SE.

Twenty-two were positive on test for SE.

Eggs diverted for pasteurization from SE-infected flocks - 1.15 billion eggs since 1990.

Contact: APHIS/SE Control Program, Hyattsville, MD,
(301) 436-4363.

I. Patterns of Selected Diseases

Section I contains information on diseases of interest as designated by List B of the Office International des Epizooties (OIE). The purpose of reporting these data is to monitor confirmed cases of specific diseases on a State-by-State or regional basis so that national distributions can be mapped and evaluated.

Bovine Brucellosis	4
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Bovine Bluetongue	6
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Bovine Spongiform Encephalopathy	7
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Equine Infectious Anemia	8
Swine Brucellosis	9
Pseudorabies	10

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region or State of specimen origin and quarter year of specimen submission.
- Results reported with dates not corresponding to the current quarter are the result of increased testing times or related to reporting times.
- Abbreviations for regions used in the figures are:

AK = Alaska
CL = Central
FL = Florida
HI = Hawaii
ME = Mideast

MN = Mountain
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NE = Northeast
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SC = South-Central
SE = Southeast
SW = Southwest
UNK = Unknown

I. Patterns of Selected Diseases

☐ Bovine Brucellosis

Source: Dr. Mike Gilsdorf
USDA:APHIS:VS
Cattle Diseases Staff
(301) 436-4918

Reactor herd = Herd with at least one case of brucellosis confirmed by serology or culture.

Definition of State Classifications:

Class B: More than 0.25 percent, but less than 1.5 percent of all herds infected.

Class A: No more than 0.25 percent of all herds infected.

Free: No infected herds under quarantine during the past 12 months.

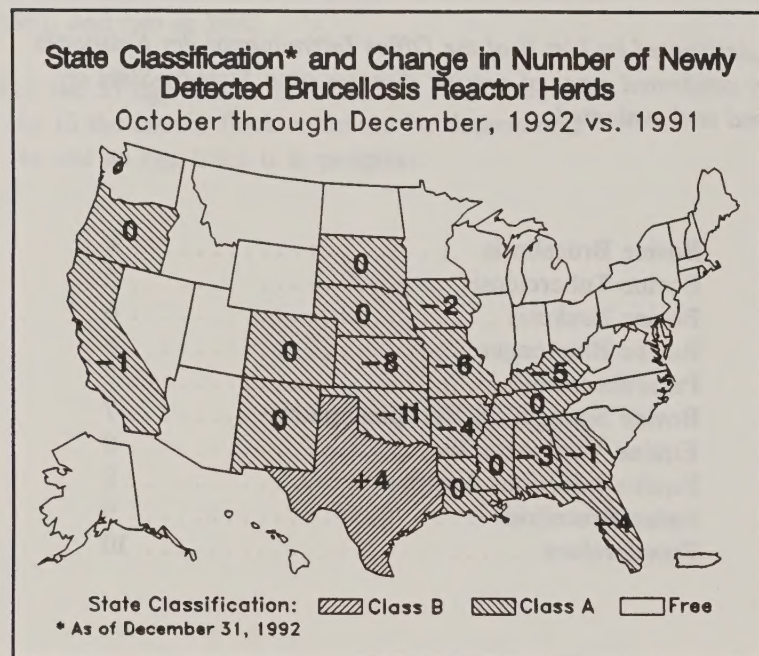


Figure 1

Texas was the only State that had an increase in the number of newly detected brucellosis reactor herds from October 1 through December 31 of 1992, as compared to the same quarter of 1991 (Figure 1). The number of newly detected herds decreased in 10 states for this quarter compared to the same period in 1991.

For the entire U.S., there were 100 newly detected reactor herds from October through December of 1992, 41 fewer herds than were newly identified from October through December of 1991. Only Texas (60 herds) had more than seven newly detected brucellosis reactor herds during the quarter (Figure 2).

There were fewer brucellosis reactor herds detected in the fourth quarter of 1992 than during the same quarter of 1991. Although the rate of detection remained stable in Texas over the last three quarters, the total for the U.S. decreased (Figure 3).

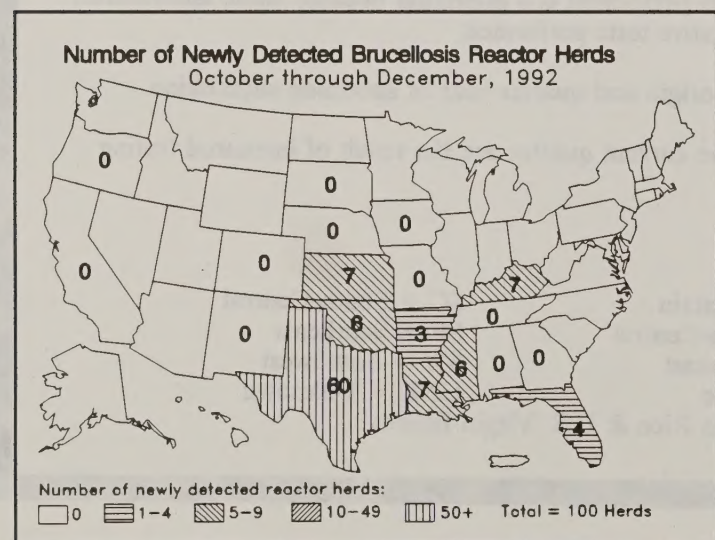


Figure 2

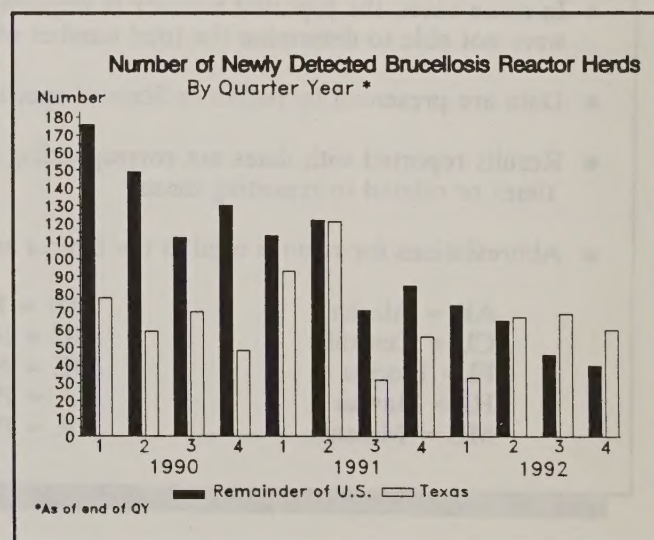


Figure 3

□ Bovine Tuberculosis

Source: Dr. Mitch Essey
 USDA:APHIS:VS
 Cattle Diseases Staff
 (301) 436-8711

Infected = Laboratory confirmed existence of bovine tuberculosis, either through *Mycobacterium bovis* isolation or positive histopathology.

Exposed = Believed to be infected, but laboratory confirmation of *M. bovis* does not exist.

Two new bovine herds, one in Oklahoma and one in Texas, were identified as infected with tuberculosis since October 1, 1992. A total of 13 bovine herds were infected with *M. bovis* in the U.S. as of December 31, 1992. Changes since June 1992 included elimination of two herds in New York and one in New Mexico (Figure 4).

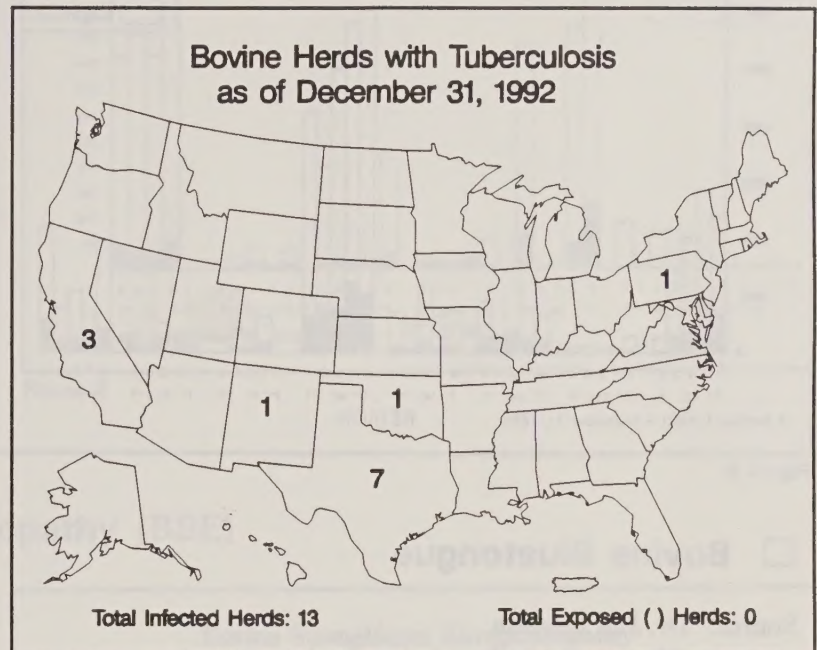


Figure 4

Thirteen captive cervid herds were known to be infected with bovine tuberculosis as of September 30, 1992. No newly infected herds have been identified since June 1992 (Figure 5).

Pending = Herd evaluation still in progress.

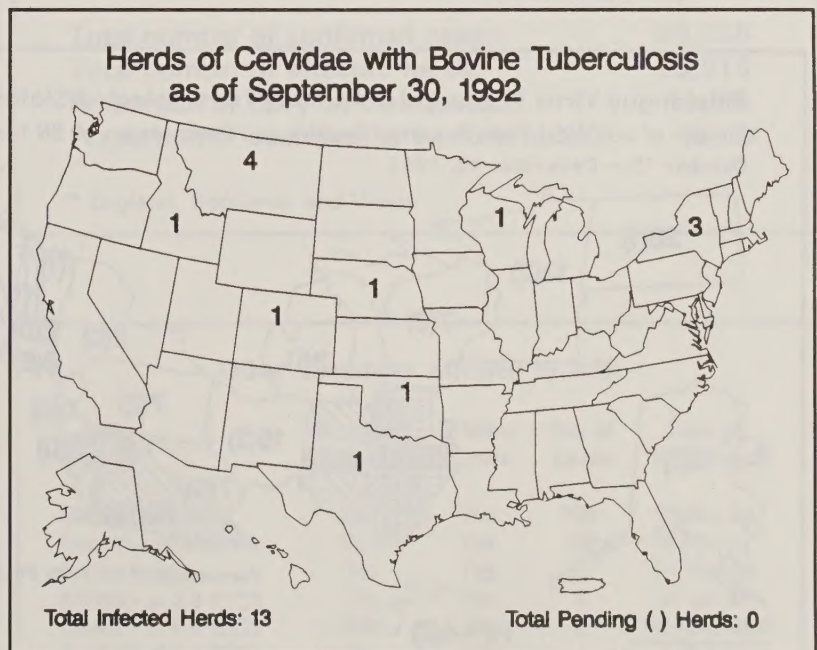
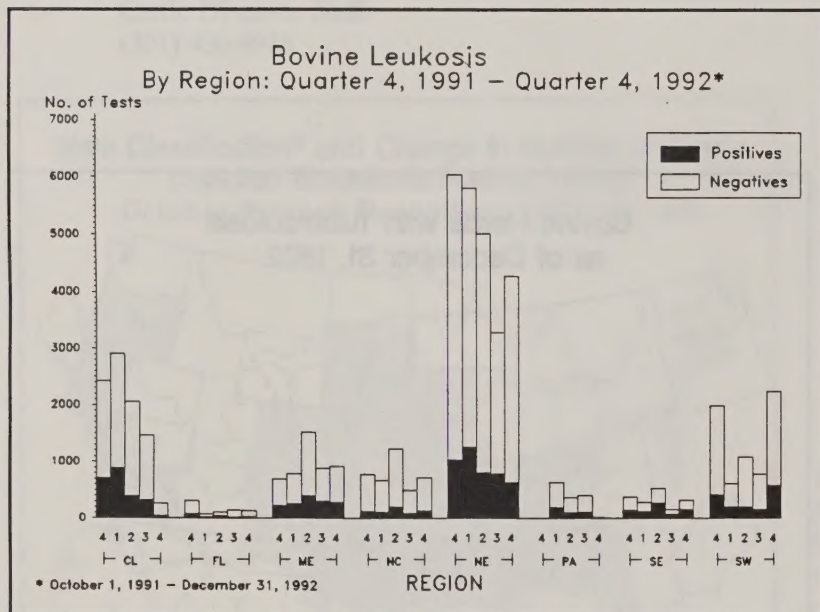


Figure 5

I. Patterns of Selected Diseases

□ Bovine Leukosis

Criteria: AGID or pathology.



For the third and fourth quarters of 1992 (July through December), there were 3,756/16,862 (22.3 percent) positive tests for bovine leukosis. The Northeast (NE) region has had the greatest number of positive specimens for the last five quarters with an average of 18.8 percent positive (Figure 6).

Figure 6

□ Bovine Bluetongue

Source: Dr. Jim Pearson
Diagnostic Virology Laboratory
National Veterinary Services Laboratories
(515) 239-8551

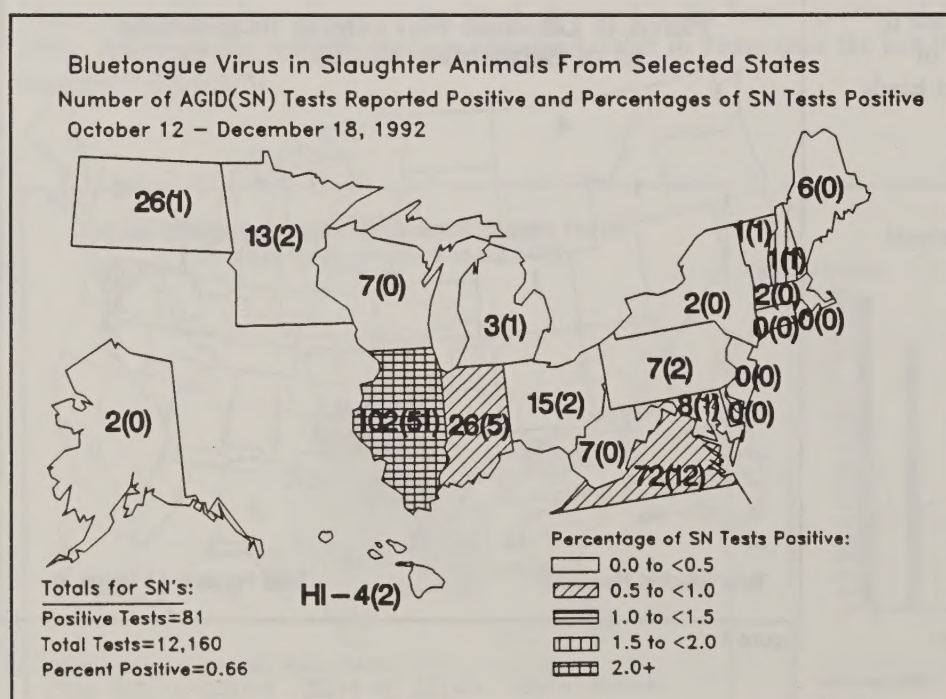


Figure 7

A bluetongue (BT) survey of slaughter cattle in 20 northeastern and northcentral States plus Alaska and Hawaii was conducted from October 12 through December 18, 1992. A total of 12,160 slaughter samples were tested, of which 304 were immunodiffusion (AGID)-positive. Ten of the fifteen geographic areas sampled had two percent or less AGID-positive samples with Virginia exceeding two percent again this year as did Illinois, Indiana, North Dakota, and Ohio. One hundred and sixteen of the 304 AGID-positive samples were negative for serum neutralizing (SN) antibody against BT. The other samples had neutralizing antibody against BT (20 samples), BT and epizootic hemorrhagic disease (EHD) (61 samples), and EHD only (107 samples). Only Illinois exceeded two percent SN-positive (Figure 7).

□ Paratuberculosis

Criteria: Culture or histopathology.

Of the 399 positive tests for paratuberculosis for the third quarter, 262 (65.7 percent) were from the Northeast (NE) region (12.1 percent positive). Only three tests were reported for the Central (CL) region during the third quarter of 1992, of which one was positive (Figure 8).

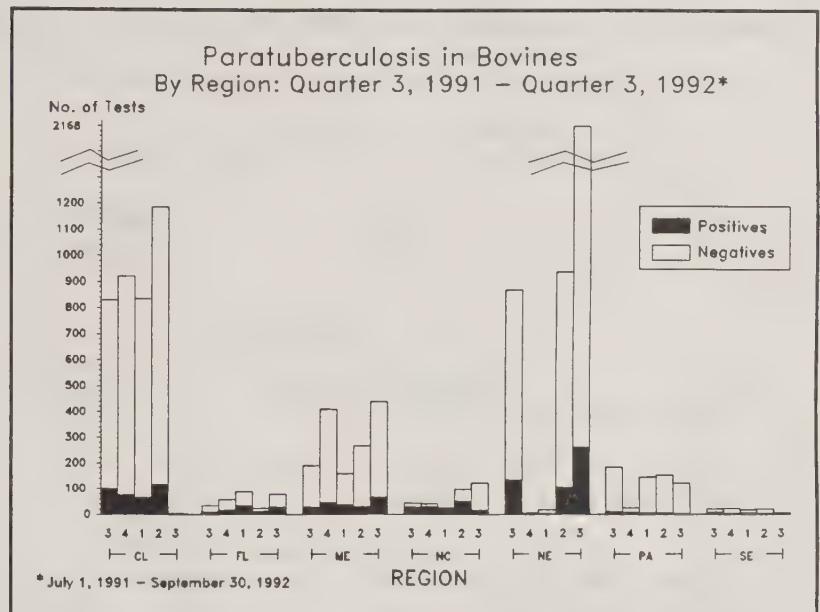


Figure 8

□ Bovine Spongiform Encephalopathy (BSE)

Sources: Dr. O. Denny, Northern Ireland
Dr. A. Doherty, Republic of Ireland
Dr. B. Hornlimann, Switzerland
Dr. J. Wilesmith, Great Britain

Since December 4, 1992, Great Britain has had 9,603 newly confirmed cases of BSE with 1,810 more herds affected. About 42 percent (up from 39.7 on December 4) of the dairy herds and eight percent (up from seven) of the beef suckler herds in Great Britain have been affected (Table 1).

Over 100 additional confirmed cases of BSE have been reported from Northern Ireland in the last 3 months, while the Republic of Ireland and Switzerland have had nine and four cases, respectively (Table 2).

Bovine Spongiform Encephalopathy Descriptive Epidemiological Statistics for Great Britain* As of February 26, 1993

Total number of confirmed cases:	86,556
Total number of affected herds:	23,915
Proportion of dairy herds affected:	41.9%
Proportion of beef suckler herds affected:	8.1%

* England, Scotland, and Wales

Table 1

Other Countries Affected by BSE

Country	Imported Cases	Native Cattle	No. of Cases	Date of Last Report
Northern Ireland	Yes	Yes	755	15 Mar 93
Republic of Ireland	Yes	Yes	68	10 Mar 93
Switzerland	No	Yes	29	24 Mar 93
France	No	Yes	5	31 Jul 92
Oman	Yes	No	2	31 Jul 92
Falkland Islands	Yes	No	1	4 Sep 92
Denmark	Yes	No	1	10 Aug 92

Table 2

I. Patterns of Selected Diseases

Equine Viral Arteritis

Criteria: Virus neutralization (>1:4 titer) and no history of vaccination, or, virus isolation (tissue or semen).

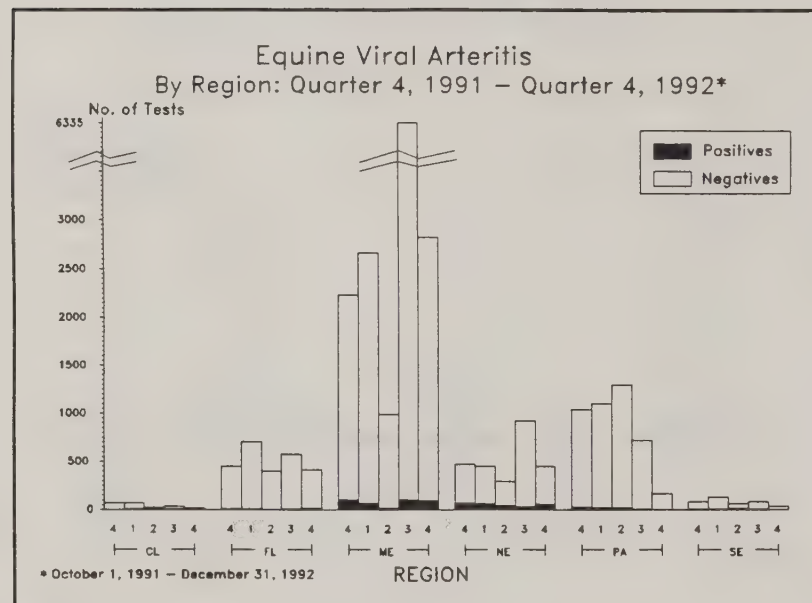


Figure 9

For all regions combined, 170 positive tests (4.4 percent of the 3,908 total tests) for equine viral arteritis were reported for the fourth quarter of 1992. A seasonal pattern is suggested. The overall percent positive peaked at over four percent during the fourth quarters of 1991 and 1992. The overall percents positive for the last six quarters were 2.8 for the third quarter and 4.6 for the fourth quarter of 1991, 3.3 for the first quarter, 2.9 for the second quarter, 1.7 for the third quarter and 4.4 for the fourth quarter of 1992 (Figure 9).

Equine Infectious Anemia (EIA)

Source: Dr. Tommy Thomas
USDA:APHIS:VS
Equine Diseases Staff
(301) 436-6954

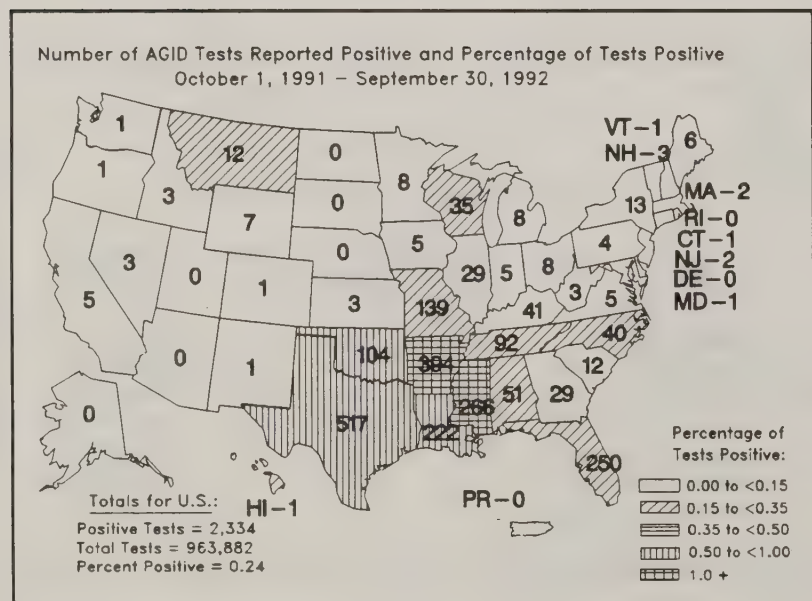


Figure 10

The percentage of AGID-positive tests has remained approximately the same for the year October 1, 1991, through September 30, 1992, compared to the previous year (0.24 vs. 0.277) (Figure 10).

Caution should be used in interpreting both the number of agar gel immunodiffusion (AGID) tests which were positive and the percentage of total tests positive. Testing for equine infectious anemia (EIA) is performed primarily to comply with regulations on the movement of horses, and these regulations may vary from one State to another. Thus, the number of positive tests reported from a given State may not be a good indicator of the prevalence of EIA in that State.

□ Swine Brucellosis

Source: Dr. Delorias Lenard
USDA:APHIS:VS
Swine Health Staff
(301) 436-7767

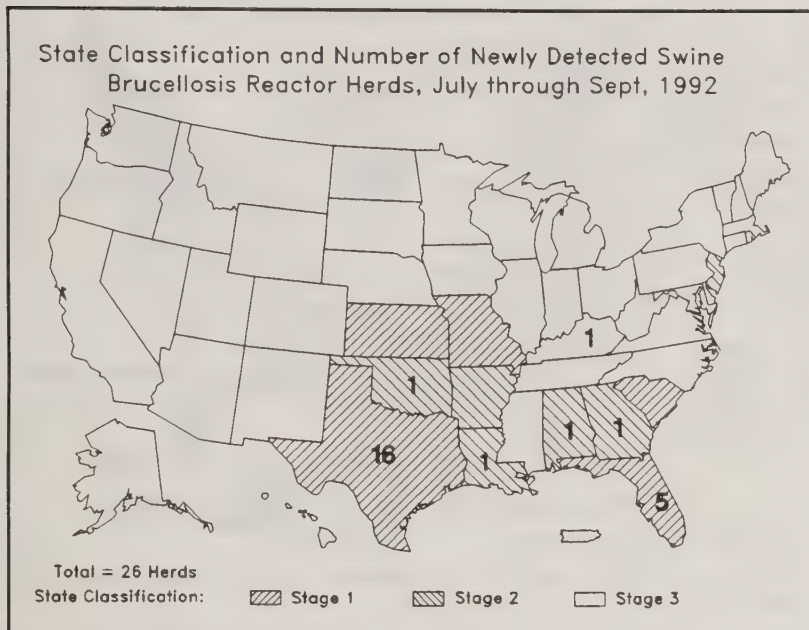


Figure 11

State Classifications:

- Stage 1:** Organization (surveillance and tracebacks begun).
- Stage 2:** ≥ 10 percent Surveillance/year; ≥ 80 percent of tracebacks successful.
- Stage 3:** Validated Free (≥ 5 percent Surveillance/year; ≥ 80 percent of tracebacks successful).

There were no changes in stage classifications between July 1 and September 30, 1992. The 26 swine herds found infected with brucellosis from July through September 1992, were one more than during the same period in 1991, and six more than the previous quarter. The sources of infection for the 26 newly found infected herds included purchased swine (11), community spread (9), exposure to feral swine (1), and other/unknown (5) (Figure 11).

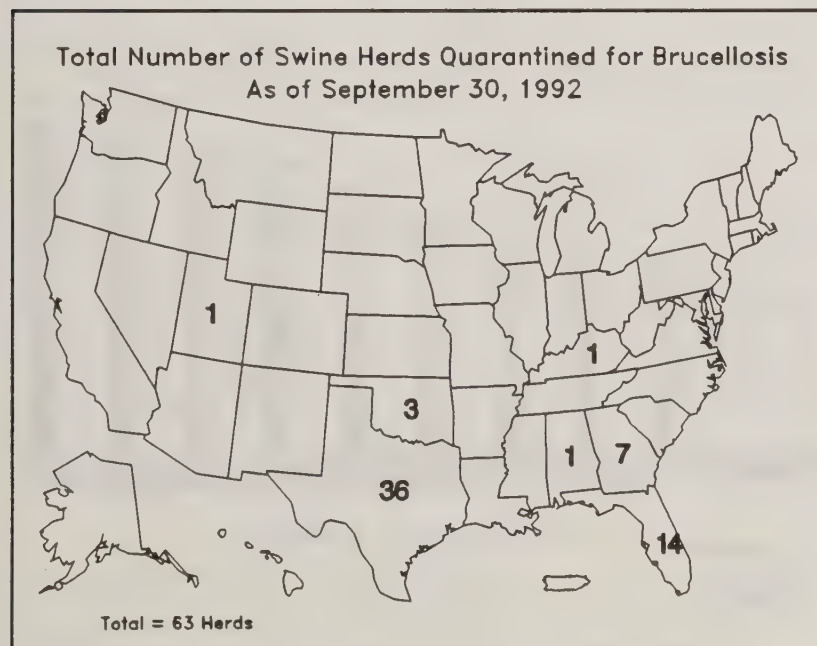


Figure 12

Although the number of newly detected herds increased in Texas from the previous quarter from 11 to 16, the total number of quarantined herds decreased from 43 to 36 (Figure 12).

I. Patterns of Selected Diseases

□ Pseudorabies (PRV)

Source: Dr. Joe Anelli
USDA:APHIS:VS
Swine Health Staff
(301) 436-7767

Mississippi advanced to Stage IV for PRV between July 1 and September 30, 1992. A total of 575 swine herds were detected with PRV during the third quarter of 1992. That was 38 percent fewer newly detected herds than during the same period in 1991 and 27 percent fewer than during the second quarter of 1992.

The most significant decreases from the previous quarter occurred in Indiana, Iowa, Nebraska, North Carolina, and Pennsylvania. The 340 newly detected herds in Iowa were fewer in number than in any of the last four quarters in that State. The number of newly detected herds in Iowa has decreased in each of the last four quarters (Figure 13).

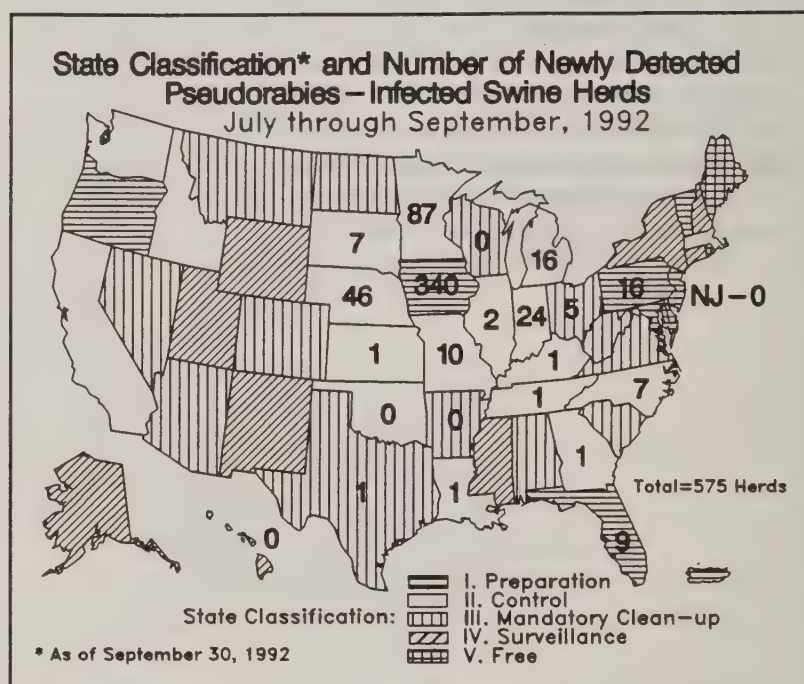


Figure 13

Iowa now has 53.1 percent of all the known PRV-infected swine herds in the U.S. (4,092/7,707). The total number of known infected herds in the U.S. increased by 6.6 percent over the last year, from 7,202 to 7,707. The total number in States other than Iowa decreased during that period from 3,891 to 3,615 (Figure 14).

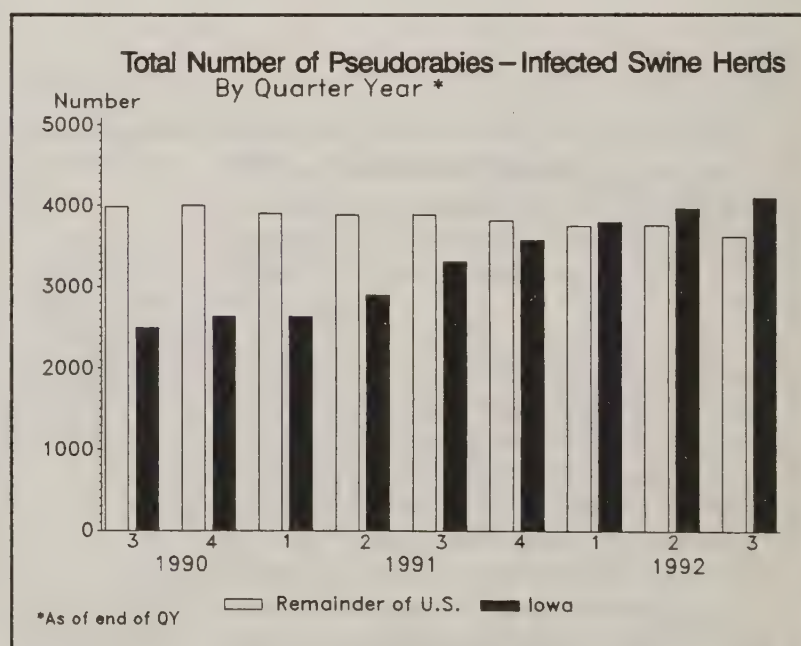


Figure 14

II. Etiologic Agents Associated with Calf Diarrhea

Section II characterizes agents most commonly associated with diarrhea in calves (8 weeks of age or less) from accessions reported to veterinary diagnostic laboratories.

<i>Clostridium perfringens</i> Type C	12
<i>Escherichia coli</i>	13
<i>Salmonella</i> spp.	14
Bovine Viral Diarrhea Virus	15
Coronavirus	16
Rotavirus	17
Cryptosporidia	18
Coccidia	19

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data totals (positives and negatives) shown for "All Calves" include specimens of unknown bovine class and those from veal calves, in addition to specimens from beef or dairy calves. Thus, the sums of dairy calf totals and beef calf totals do not always equal the totals shown for all calves.
- Data are presented by region of specimen origin and quarter year of specimen submission.
- Abbreviations for regions used in the figures are:

AK = Alaska
CL = Central
FL = Florida
HI = Hawaii
ME = Mideast

MN = Mountain
NC = North-Central
NE = Northeast
PA = Pacific
PR = Puerto Rico & U.S. Virgin Islands

SC = South-Central
SE = Southeast
SW = Southwest
UNK = Unknown

II. Etiologic Agents Associated with Calf Diarrhea

☐ *Clostridium perfringens* Type C

Criteria: Gross and histopathologic exam.

Eighty-seven tests for *Clostridium perfringens* type C were reported for all regions during the fourth quarter of 1992 with four positive results (4.6 percent). The Central (CL) region had 1/39 positive (2.6 percent). Not shown are the Southeast (SE) region which had 2/2 positive tests and the Pacific (PA) region which had 1/1 positive test (Figure 15).

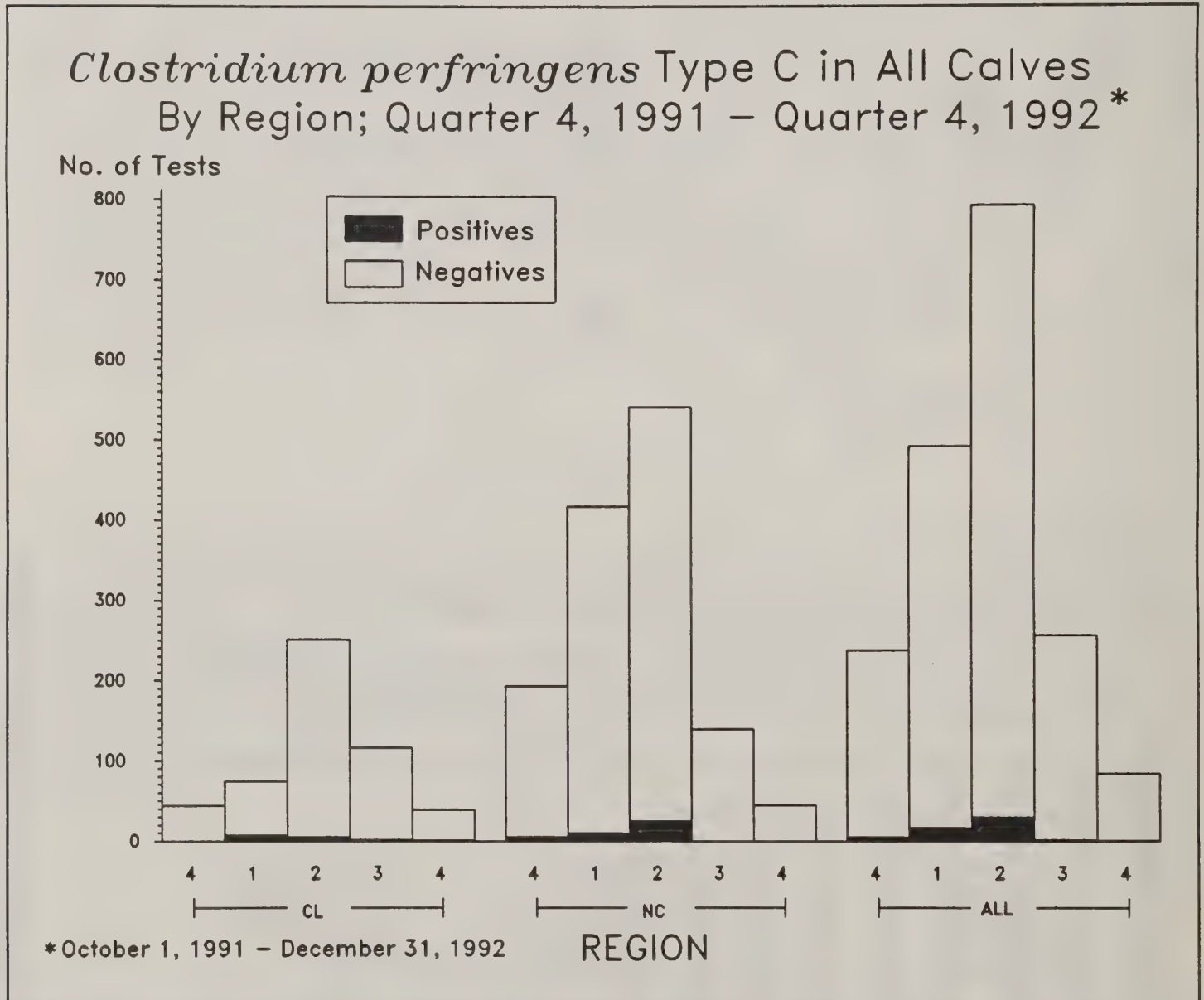


Figure 15

□ *Escherichia coli*

Criteria: Culture from intestine and demonstration of at least one virulence characteristic such as: adhesive antigens, bacterial adherence, or enterotoxin.

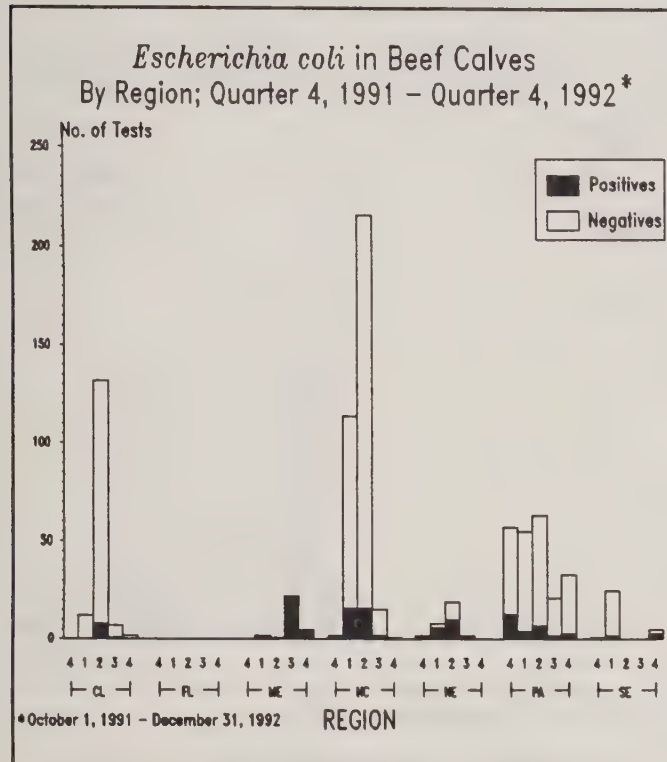


Figure 16

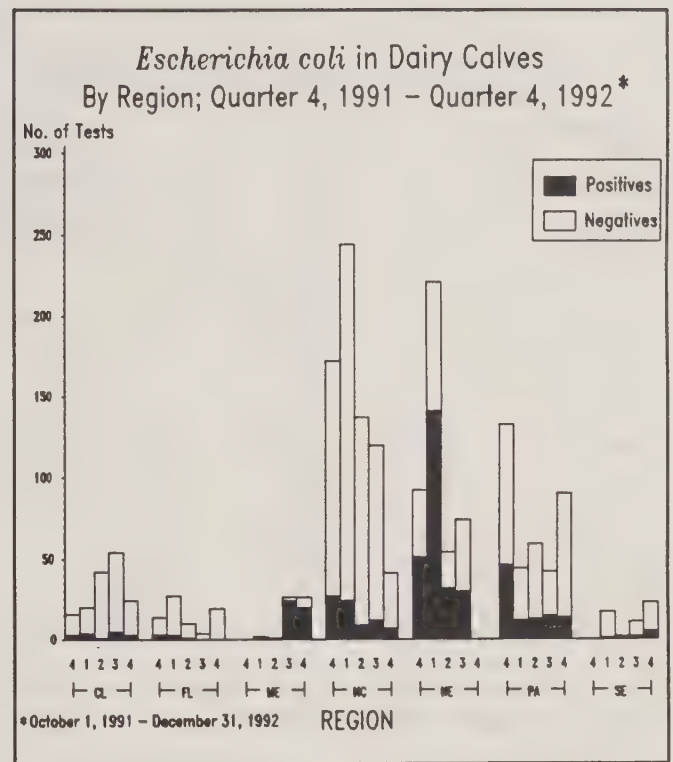


Figure 17

Of the 334 calf specimens tested for *E. coli* in the fourth quarter of 1992, 72 were positive (23.8 percent). For all calves, the Mideast (ME) region had the most positive specimens (31/49, 63.3 percent). The number of *E. coli* positive specimens for all calves was generally lower in all regions as compared to last two quarters. The exception was the Southeast (SE) region where an increase in positive specimens was reported (Figure 18). More positive tests were reported for dairy than for beef (Figures 16 and 17).

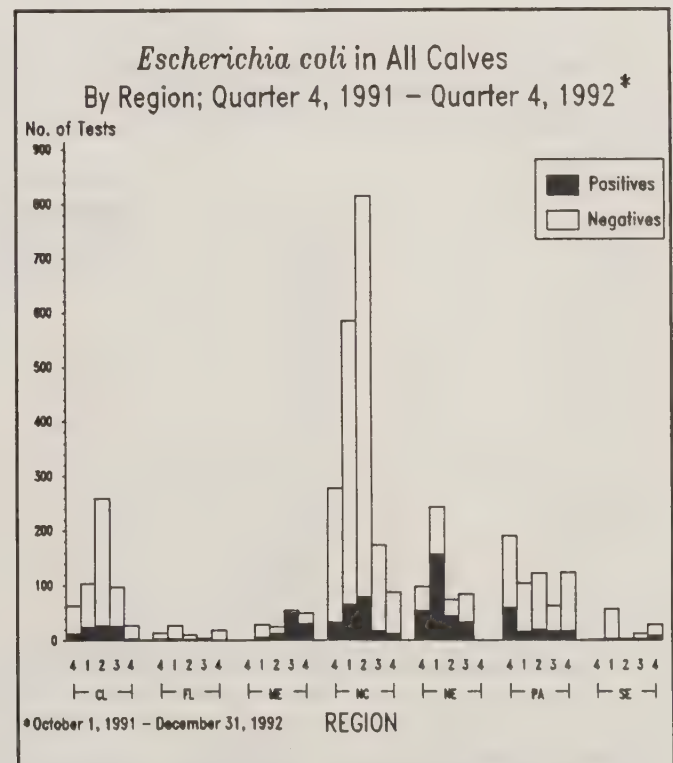


Figure 18

II. Etiologic Agents Associated with Calf Diarrhea

☐ *Salmonella* spp.

Criteria: Culture (serotype identification encouraged).

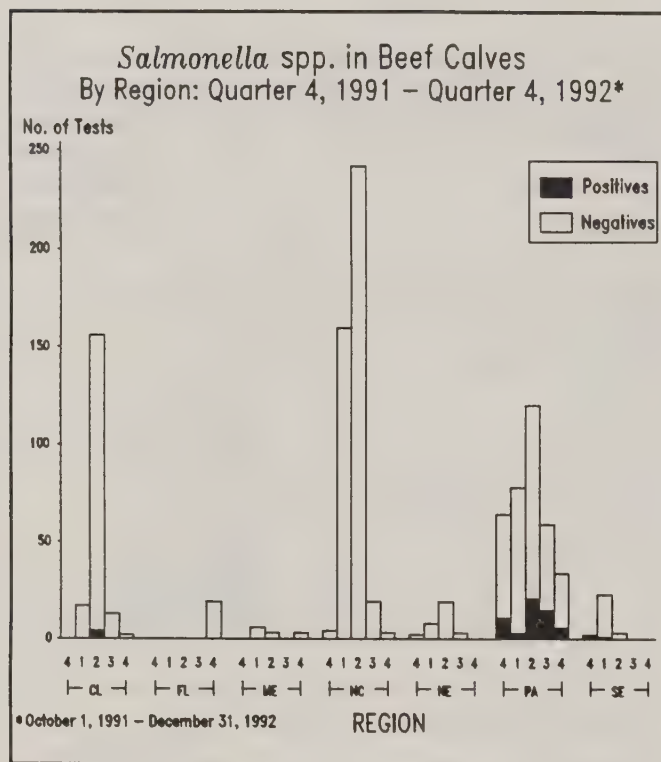


Figure 19

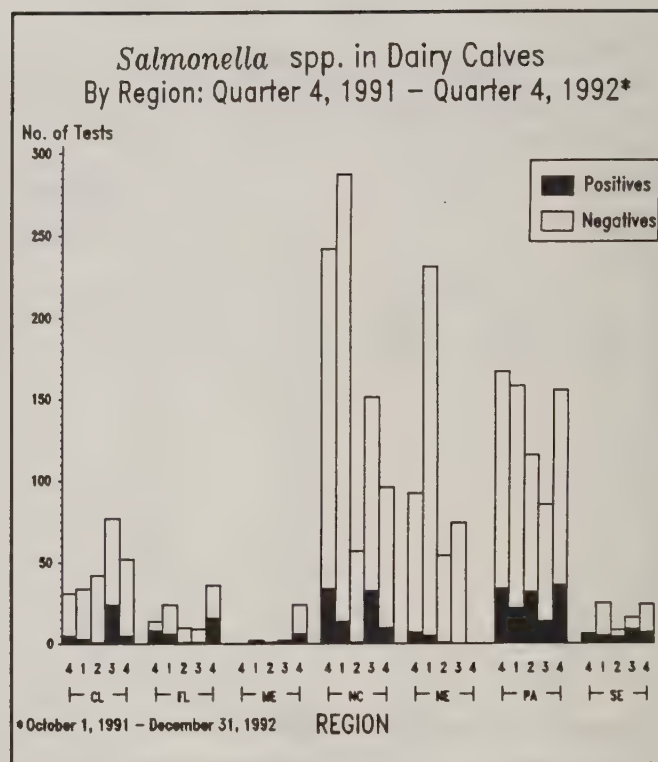


Figure 20

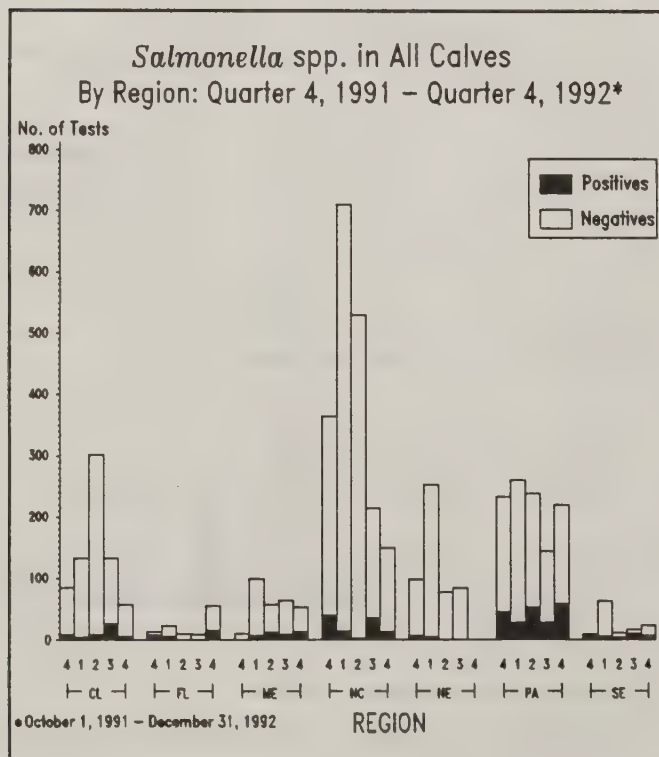


Figure 21

For all calves, 20.6 percent of specimens tested (115/558) were positive for *Salmonella* spp. during the fourth quarter of 1992. More specimens from the Pacific (PA) region were found positive for *Salmonella* spp. than from other regions of the U.S (58/220, 26.4 percent) (Figure 21). The PA region had the most positive dairy calf specimens (36/155, 23.2 percent) and the most positive beef calf specimens (6/34, 17.7 percent) (Figures 19 and 20).

□ Bovine Viral Diarrhea Virus

Criteria: Virus isolation, or, positive FA (any tissue) with histologic lesions.

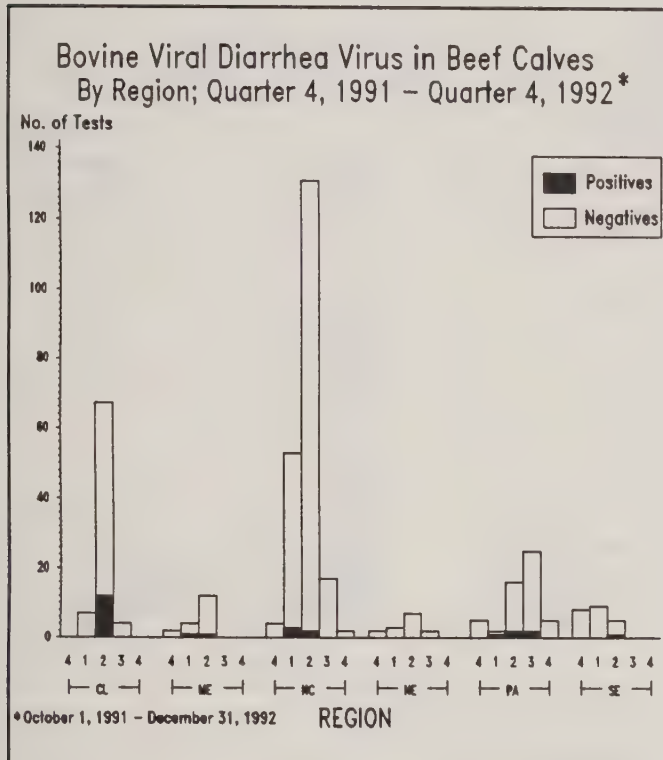


Figure 22

For the fourth quarter of 1992, six out of 367 specimens were reported positive for bovine viral diarrhea (BVD) virus. None of the 246 tests on Mideast (ME) region specimens were positive for BVD virus. Overall, 1.6 percent of all tests were positive for BVD virus in the fourth quarter (Figure 24). None of the seven beef specimens submitted tested positive (Figure 22).

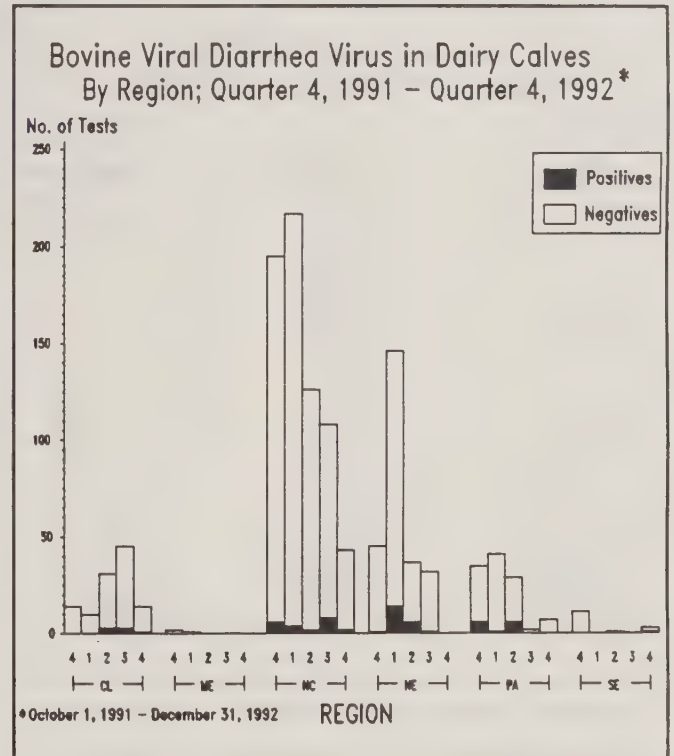


Figure 23

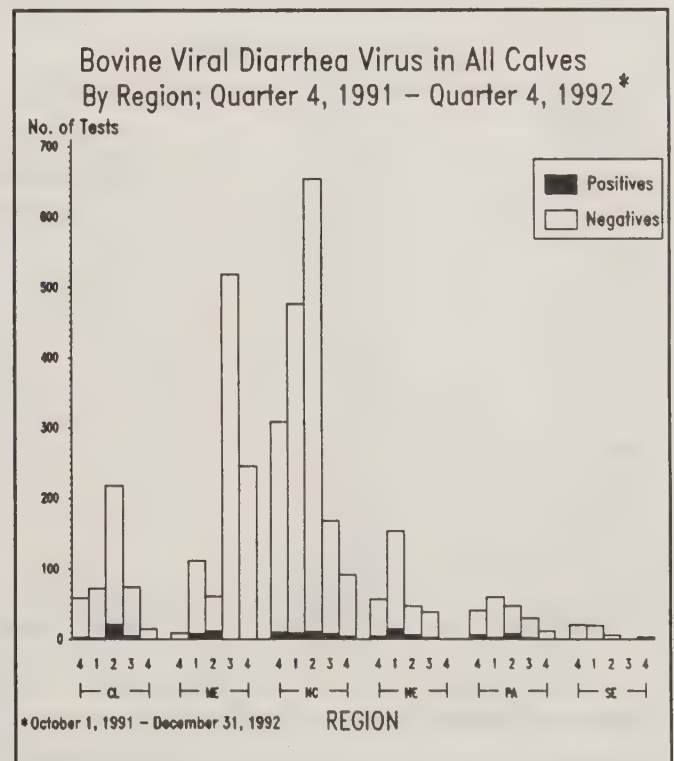


Figure 24

II. Etiologic Agents Associated with Calf Diarrhea

☐ Coronavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents.

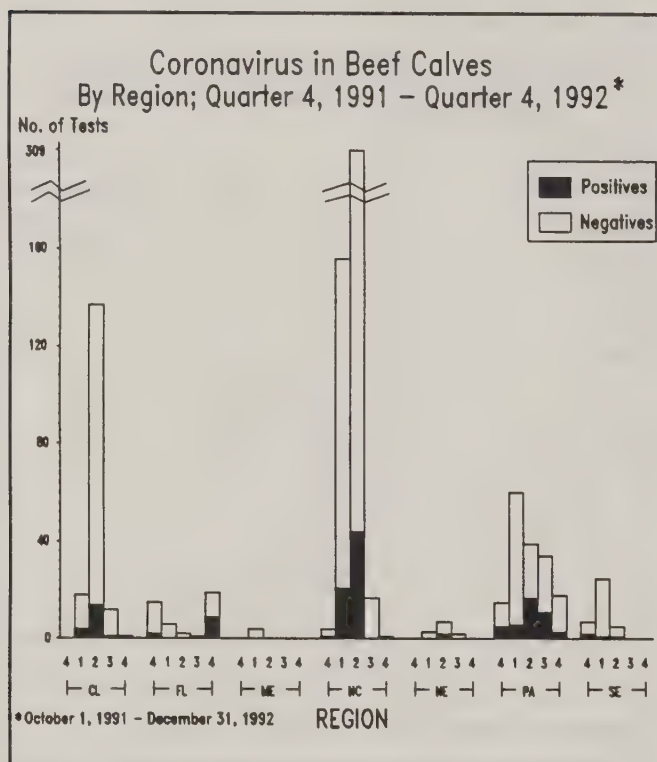


Figure 25

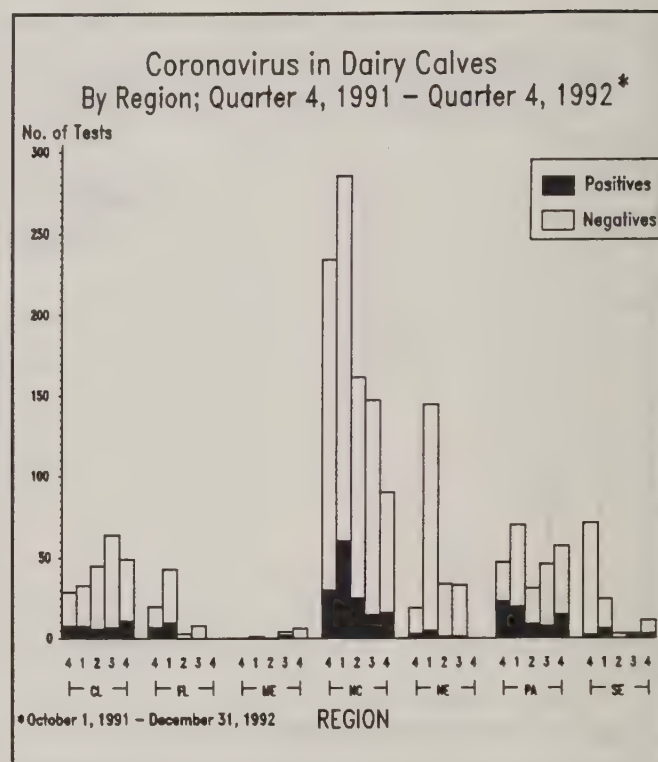


Figure 26

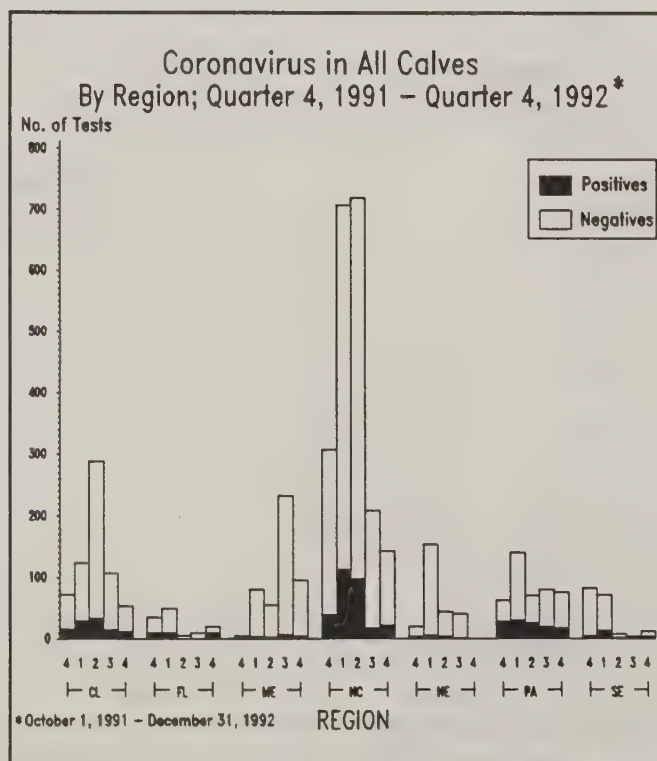


Figure 27

Overall, there has been an increase in percent of specimens testing positive for coronavirus in the fourth quarter of 1992 compared to the third quarter of 1992 (from 8.8 to 16.7 percent) (Figure 27). There were 13/39 (33.3 percent) positive tests for beef calves of which nine out of 19 (47.4 percent) were from Florida (FL) (Figure 25). Forty-five out of 213 (21.1 percent) dairy calf specimens tested positive (Figure 26). Only 8/143 (5.6 percent) of the class unknown tested positive.

Rotavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents.

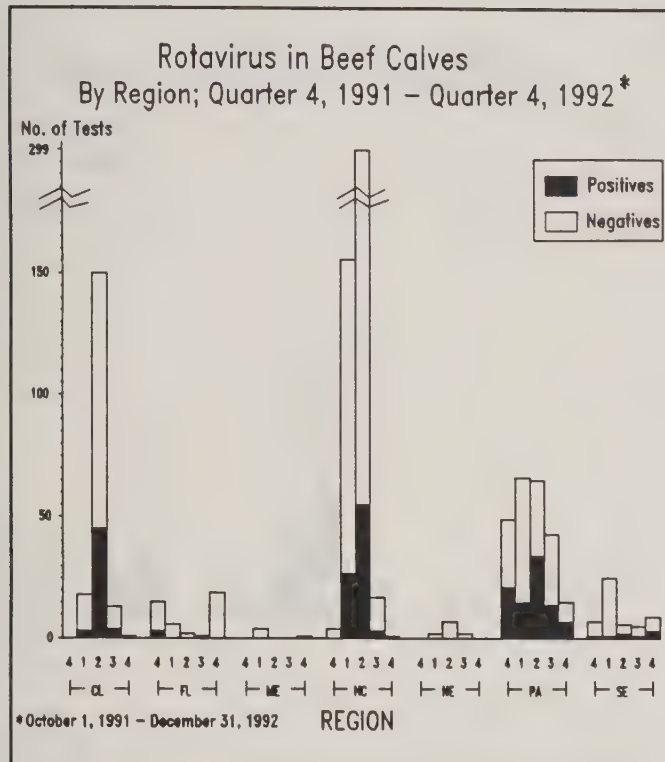


Figure 28

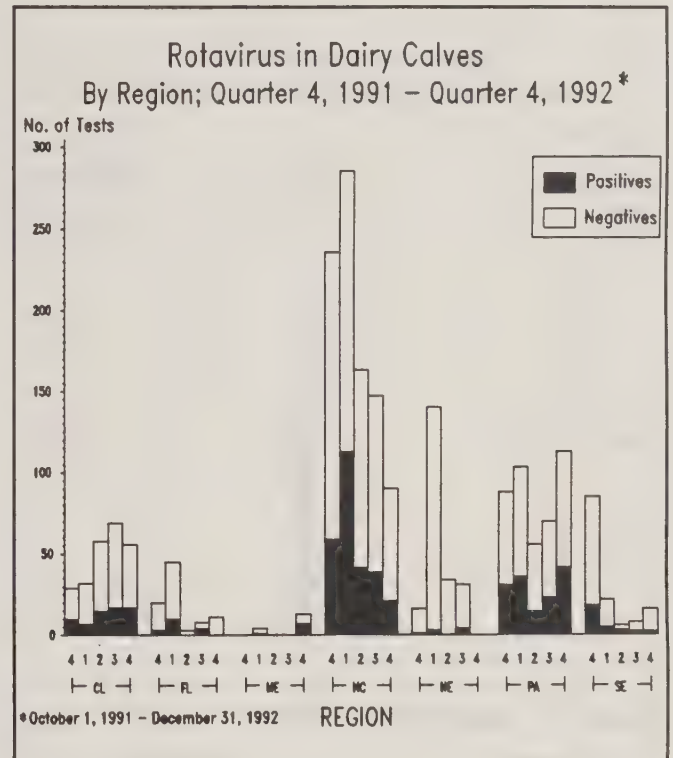


Figure 29

The overall percent positive for rotavirus during the fourth quarter of 1992 (23.7) was similar to that for the third quarter of 1992 (21.1) and the fourth quarter of 1991 (23.0). However, the number of submissions decreased compared to both quarters (Figure 30). The percent positive was similar for dairy and beef calves (29.8 and 23.9 percent respectively), but only 13 percent of unclassified calves tested positive (Figures 28 and 29).

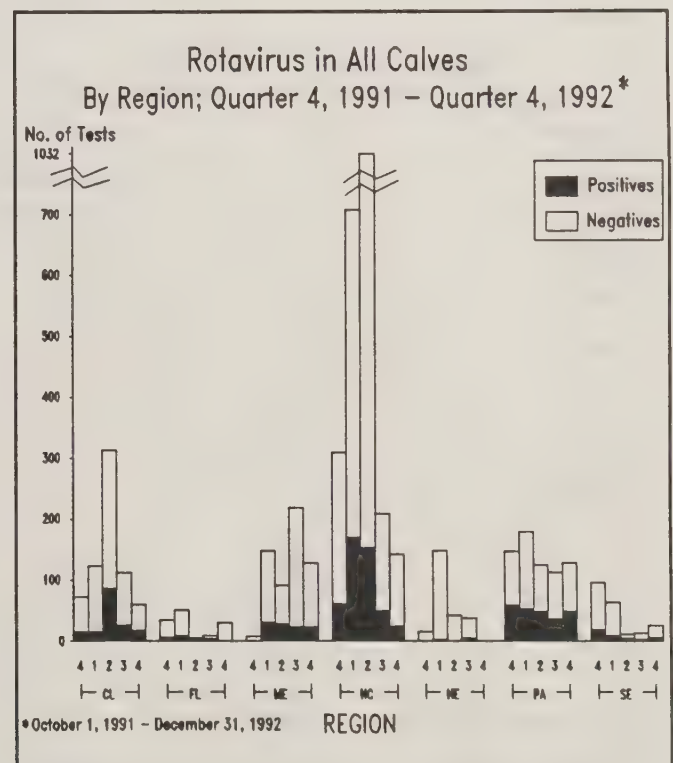


Figure 30

II. Etiologic Agents Associated with Calf Diarrhea

□ Cryptosporidia

Criteria: Parasitologic or histopathologic exam.

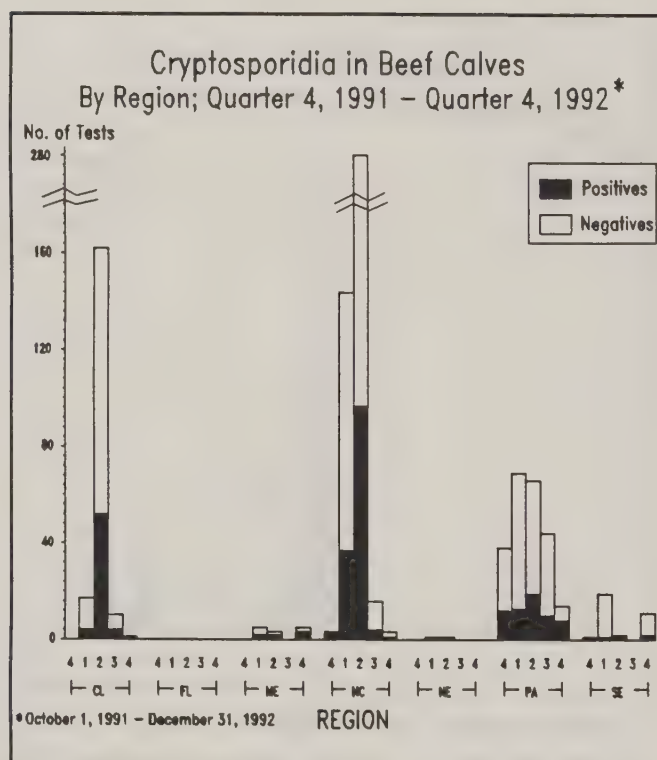


Figure 31

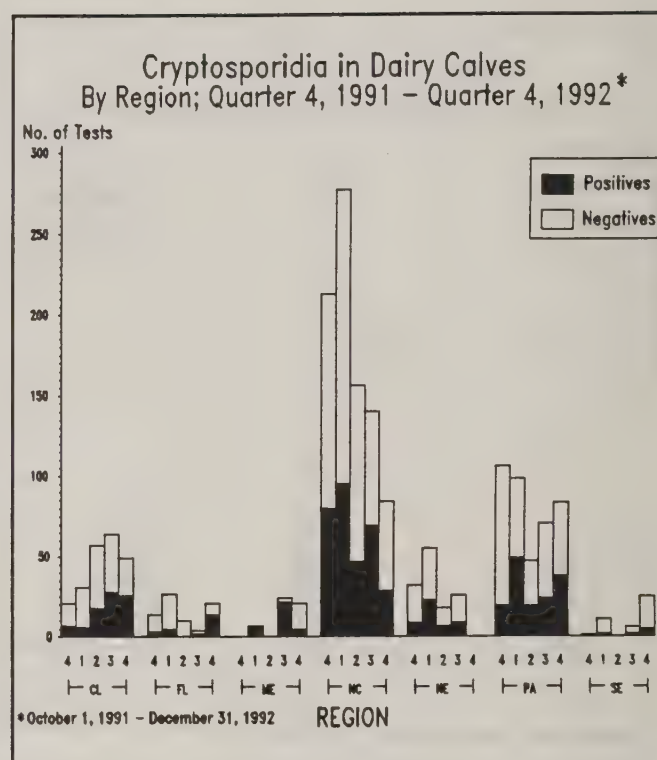


Figure 32

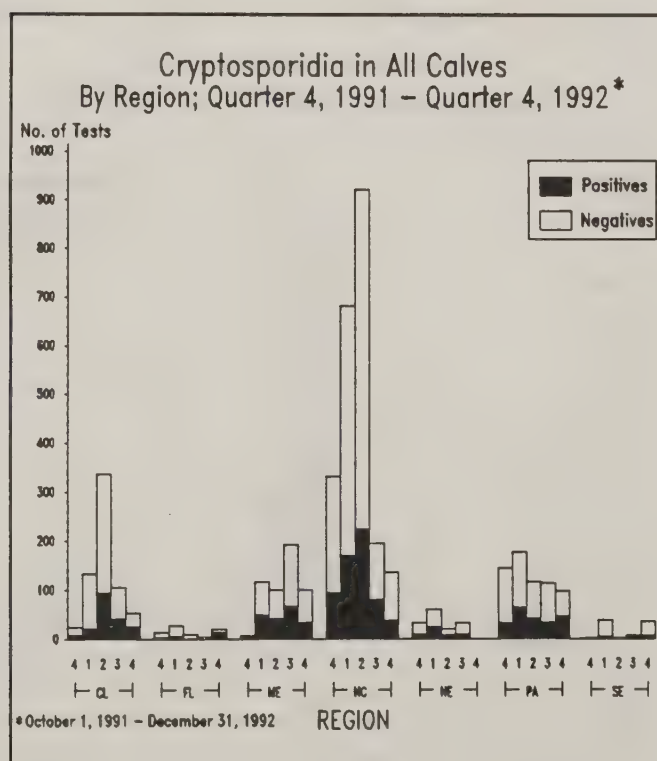


Figure 33

Although there were fewer positive tests for cryptosporidia during the fourth quarter of 1992 compared to the third quarter of 1992 (166 vs. 238), the percent positive remained approximately the same (34.7 vs. 36.6) (Figure 33). The overall percent positive increased in beef calves from 25.7 percent in the third quarter of 1992 to 41.2 percent in the fourth quarter of 1992, whereas it decreased slightly for dairy calves (46.7 vs. 41.3) (Figures 31 and 32).

☐ **Coccidia**

Criteria: Parasitologic or histopathologic exam.

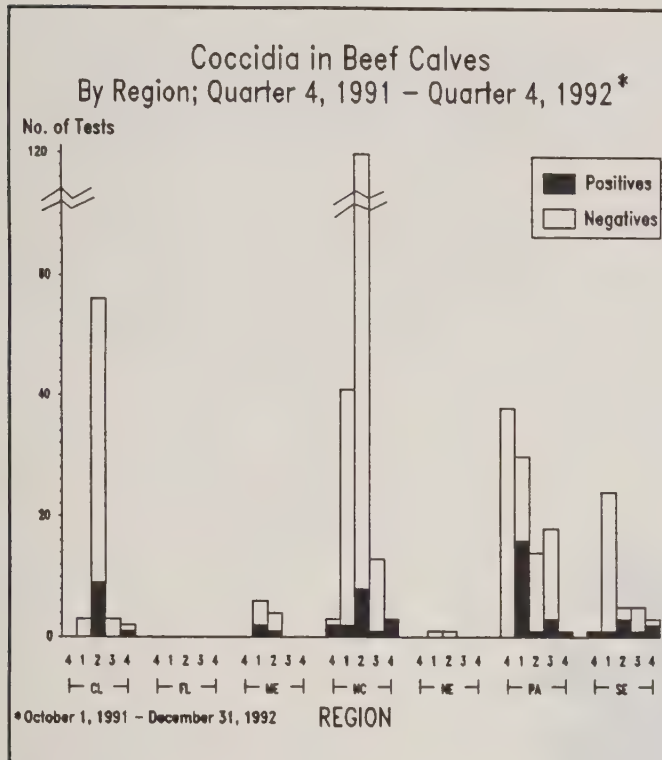


Figure 34

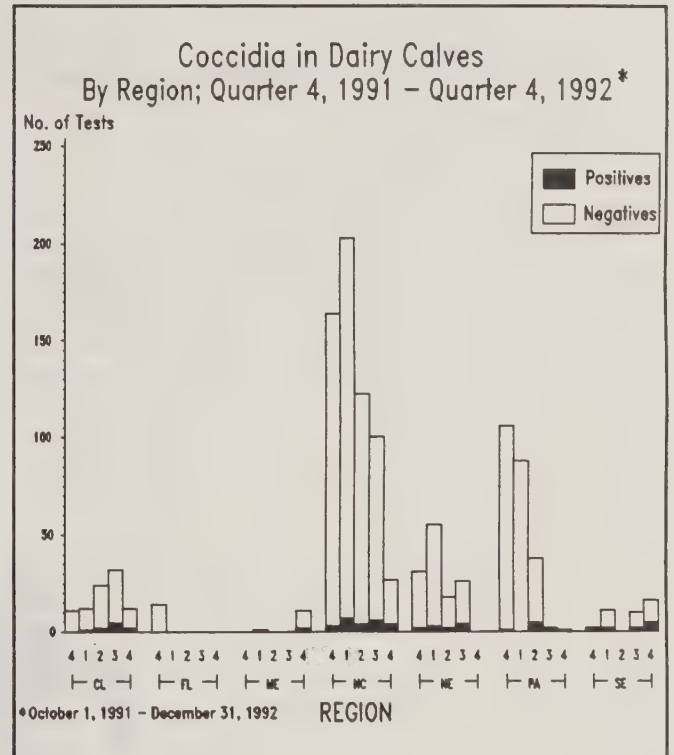


Figure 35

Overall, there were 30/183 (16.4 percent) positive tests for coccidia reported from all calf specimens for the fourth quarter of 1992 (Figure 36). Seven of the nine beef samples (77.8 percent) tested positive compared to 14/67 (20.9 percent) of dairy calf specimens (Figures 34 and 35). Most of the submissions (107) were not classified as to beef or dairy and only 8.4 percent of these tested positive for coccidia.

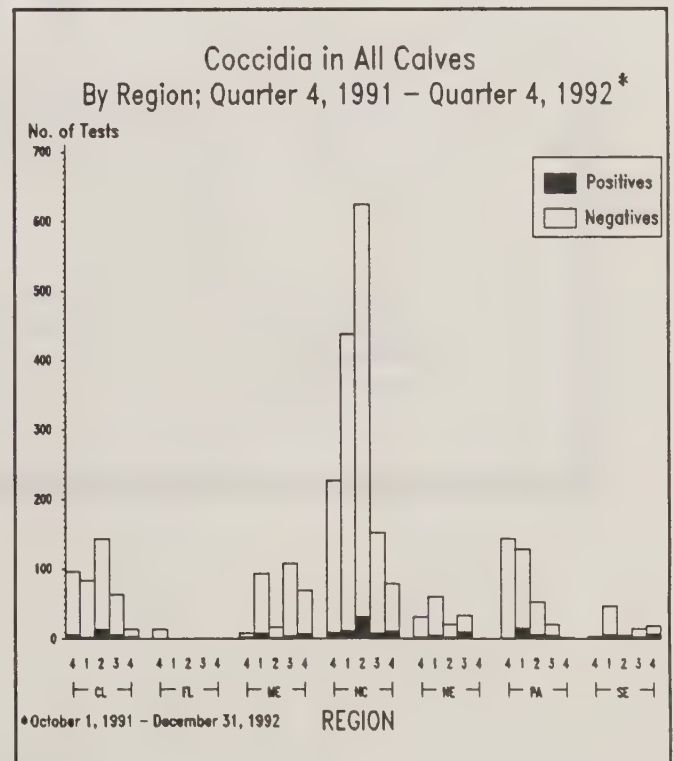


Figure 36

II. Etiologic Agents Associated with Calf Diarrhea



III. Etiologic Agents Associated with Piglet Diarrhea

Section III characterizes agents most commonly associated with diarrhea in piglets (8 weeks of age or less) from accessions reported to veterinary diagnostic laboratories.

<i>Clostridium perfringens</i> Type C	22
<i>Escherichia coli</i>	22
Rotavirus	23
Transmissible Gastroenteritis Virus	23
Coccidia	24

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region of specimen origin and quarter year of specimen submission.
- Abbreviations for regions used in the figures are:

AK = Alaska
CL = Central
FL = Florida
HI = Hawaii
ME = Mideast

MN = Mountain
NC = North-Central
NE = Northeast
PA = Pacific
PR = Puerto Rico & U.S. Virgin Islands

SC = South-Central
SE = Southeast
SW = Southwest
UNK = Unknown

III. Etiologic Agents Associated with Piglet Diarrhea

☐ *Clostridium perfringens* Type C

Criteria: Gross and histopathologic exam.

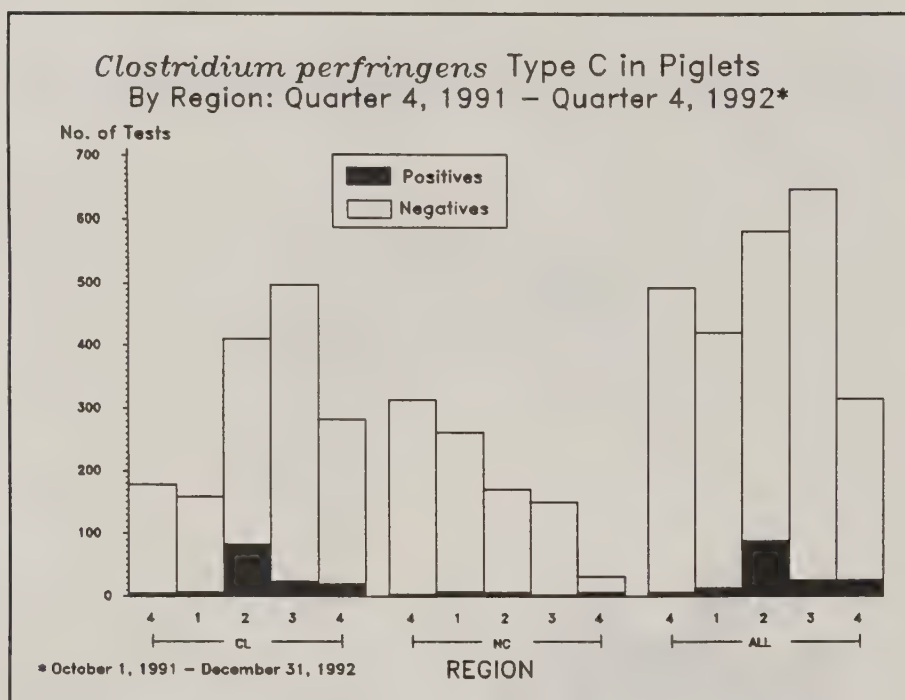


Figure 37

Most of the 30 out of 319 piglet specimens positive for *Clostridium perfringens* type C during the fourth quarter of 1992 were from the Central (CL) (20/283, 7.1 percent) or North Central (NC) (7/32, 21.9 percent) regions. Three out of three specimens from the South Central (SC) region tested positive (Figure 37).

☐ *Escherichia coli*

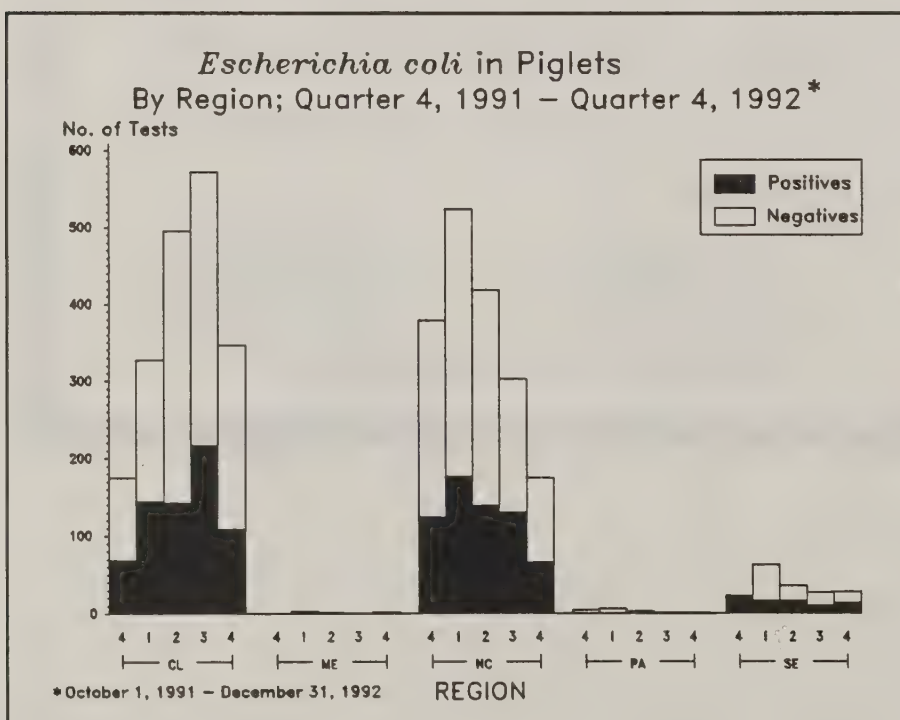


Figure 38

Criteria: Culture from intestine and demonstration of at least one virulence characteristic such as: adhesive antigens, bacterial adherence, or enterotoxin.

There were fewer positive specimens for *E. coli* during the fourth quarter of 1992 than for the previous three quarters. For the fifth quarter in a row, the Central (CL) (109/347, 31.4 percent) and North Central (NC) (66/175, 37.7 percent) regions had the most piglet specimens reported positive for *E. coli* (Figure 38).

☐ Rotavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents.

Fewer positive tests for rotavirus were reported for the fourth quarter of 1992, compared to the third quarter of 1992 (113 vs. 162), although the percent testing positive increased (23.0 vs. 16.7). Specimens from the Central (CL) region accounted for 79 of the 113 total positive (Figure 39).

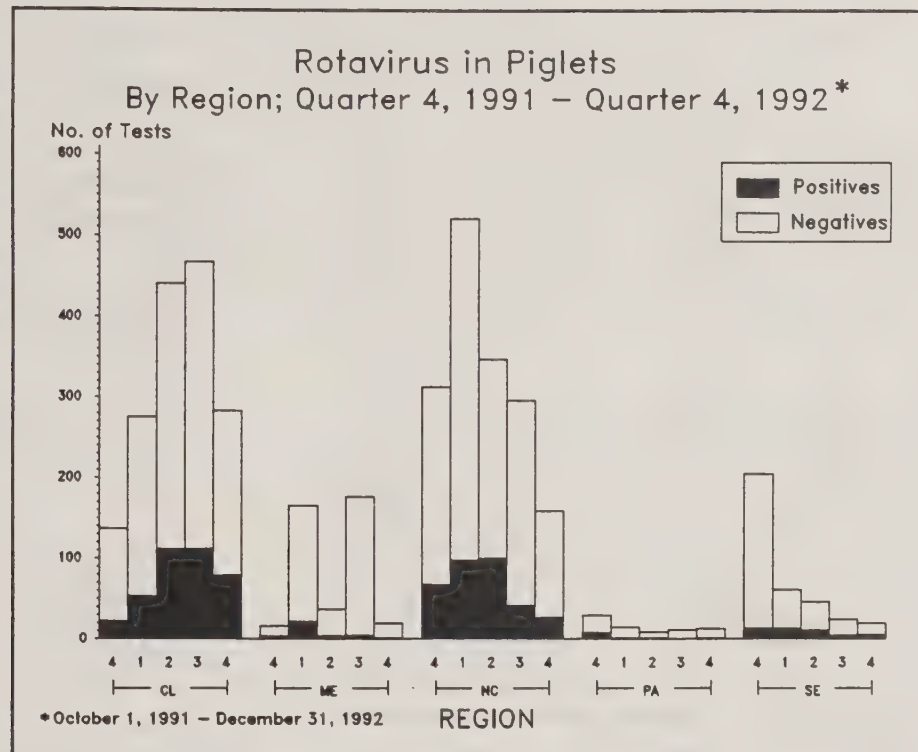


Figure 39

☐ Transmissible Gastroenteritis Virus (TGE)

Criteria: Antigen by FA, or, electron microscopy.

More piglet specimens were reported positive for transmissible gastroenteritis (TGE) virus in the fourth quarter than in the third quarter of 1992. There were 54/510 (10.6 percent) positive tests for TGE virus for all regions, as compared to 46/628 (7.3 percent) for the third quarter of 1992. However, compared to the fourth quarter of 1991, there were fewer positive tests (102/702, 14.5 percent for the fourth quarter of 1991) (Figure 40).

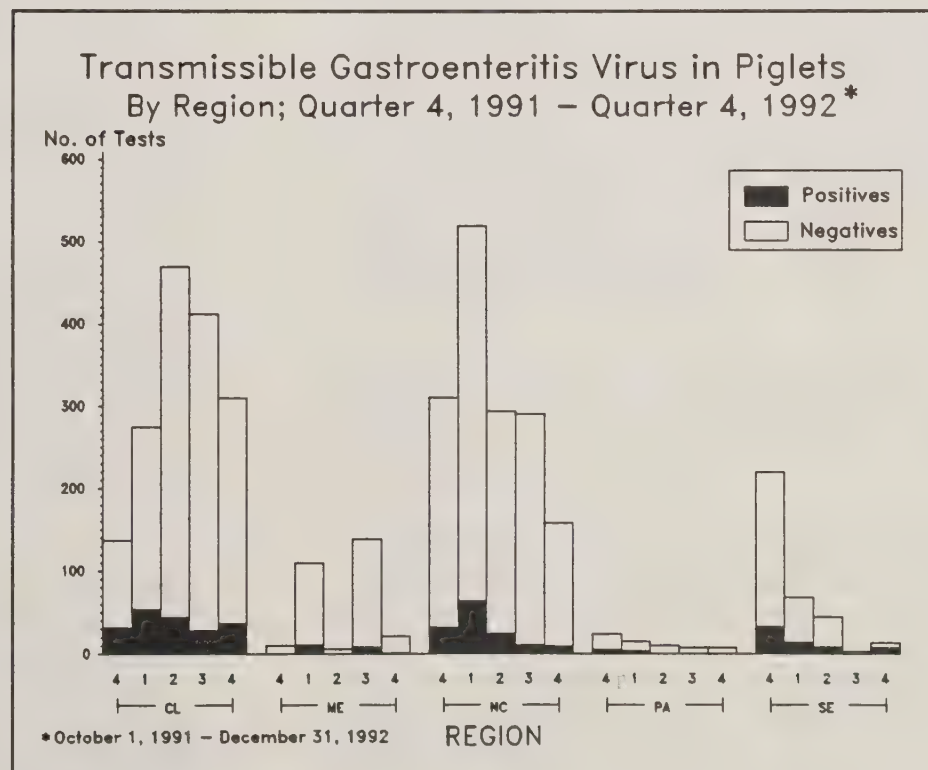


Figure 40

III. Etiologic Agents Associated with Piglet Diarrhea

☐ Coccidia

Criteria: Parasitologic or histopathologic exam.

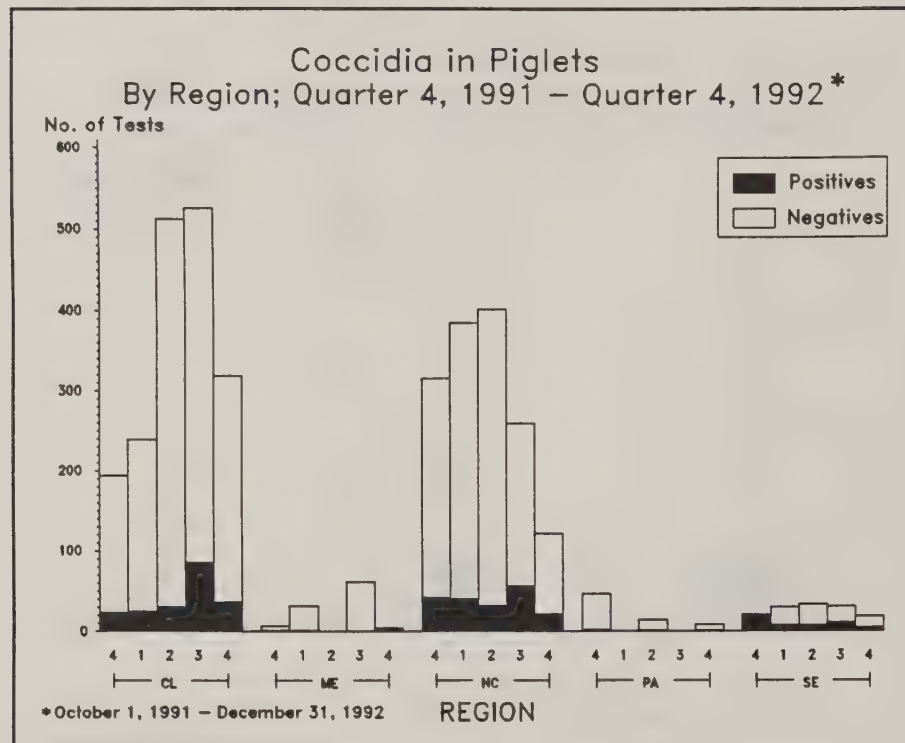


Figure 41

The number positive and percent positive tests decreased for coccidia in piglets during the fourth quarter of 1992. For all regions combined, there were 66 positive tests (13.8 percent) in the fourth quarter of 1992 compared to 154 (17.5 percent) in the third quarter of 1992 and 91 (15.6 percent) in the fourth quarter of 1991 (Figure 41).

This section contains news items and articles of potential interest to diagnostic laboratories. Submissions from nonparticipating laboratories are welcome.

A Survey of Users of the National Veterinary Services Laboratories

On June 4, 1992, the NVSL circulated an opinion questionnaire to names on its user list, including diagnostic laboratories, Area and Regional VS offices, and VS staff, to determine how well the laboratory was satisfying its clientele. The questions allowed opportunities for users to request services of interest that the NVSL is not providing now and to give examples of positive and negative experiences with the diagnostic laboratory. Of the 341 surveys distributed, 177 (52 percent) were returned.

The affiliations of the laboratories answering the survey were as follows: 35 percent university, 30 percent State, 17 percent State/Federal, 4 percent Federal, 12 percent private, and 2 percent foundation. Approximately 50 percent of the laboratories responding were full service facilities. The most commonly covered discipline was bacteriology and the two least covered, chemistry, and toxicology. Field investigations were performed by 57 percent of the responding laboratories.

Among the responding laboratories, 20 percent indicated that their use of the NVSL was greater than 10 times per month. In comparison, of the Area Veterinarians in Charge (AVIC's), more than 70 percent used the laboratory services 10 or more times per month.

The answers related to satisfaction with the laboratory services indicated that over 95 percent of the diagnostic laboratories were usually satisfied with the credibility of each of the four different laboratories and with the Biological Materials Processing Section, over 82 percent were usually satisfied with the timeliness of the services, and over 98 percent were usually satisfied with the courtesy and helpfulness of the NVSL personnel.

Regarding computer capabilities of the diagnostic laboratories responding to the questionnaire, 45.5 percent indicated that they could track specimens using their computer, 58 percent were producing computerized reports, 70 percent were interested in transmitting and receiving diagnostic data to and from the NVSL, and 34 percent had computer systems with remote capabilities. Responses indicated that many

laboratories were working on these capabilities but had not implemented them yet.

Training efforts were generally appreciated. Requested training included laboratory health and safety for State laboratories, additional EIA training, courses on new serologic tests and genetic engineering, and tissue residue training. Additional technical courses and training in diagnosis of fish diseases were requested.

The Biological Materials Processing Section is very important to the Federal facilities and offices that use the NVSL, and its services are generally greatly appreciated. Some recommendations for improvements in reporting included a better cross-referencing system between sample numbers and animal identification, the ability to correlate NVSL results with reference laboratory records, a note indicating which tests are still pending when reporting results, more timely generation of hard copy reports, and provision of a manual on how to access the computer data base for customized information.

Additional services requested included new technologies for national cooperative programs, serologic tests for tuberculosis (TB) and improved TB tests for cervidae, and/or antemortem diagnostic tests for scrapie. Additional reagents were requested from NVSL for diagnosis of many fish, canine, and feline diseases, and standardized monoclonal antibodies were requested for domestic and foreign animal diseases (FAD). Other reagents requested included Johnin and tuberculin for primates, ovine progressive pneumonia, and caprine arthritis/encephalitis reagents, and FAD diagnostic kits.

A computer interface between foreign animal disease diagnosticians and the Foreign Animal Disease Diagnostic Laboratory was recommended to facilitate rapid exchange of information.

Regarding degree of satisfaction with the NVSL, the following requests were made: Provide results on FAD submissions to the AVIC's as soon as they are completed, provide TB results to AVIC's more quickly for animals under quarantine, speed up process on scrapie confirmation and report as positive or negative (not suggestive).

The information provided by respondents will help the

NVSL determine how to best use its resources and where to place emphasis in updating and improving services. Dr. Lynn Siegfried, Associate Director, NVSL, (515) 239-8266. ■

New Director at the NVSL

Dr. Joan Arnoldi has assumed the position of Director of the National Veterinary Services Laboratories (NVSL), replacing Dr. Robert Nervig who has taken over as Director of the Veterinary Services' Western Regional Office in Denver, Colorado.

While her headquarters will be in Ames, Iowa, Dr. Arnoldi will be administrator of both the Ames laboratories and the Foreign Animal Diseases Diagnostic Laboratory on Plum Island. She has been part of APHIS for 5 years as the previous Deputy Administrator in charge of the Regulatory Enforcement and Animal Care. Her background also includes work in both the veterinary diagnostic laboratory (with the Wisconsin Department of Agriculture, Trade, and Consumer Protection) and the commercial biologics industry, so that she is uniquely experienced to manage both the diagnostic and biologics laboratories of the NVSL. Dr. Lynn Siegfried, Associate Director, NVSL, (515) 239-8266. ■

Update on Foreign Animal Diseases

Foot-and-Mouth Disease in Malasia. The Director General of Veterinary Services in Malaysia has informed the OIE of two outbreaks of foot-and-mouth disease (FMD) detected in December 1992 in the state of Kelantan. FMD activity was last reported in Malaysia in June of 1992. A total of 11 animals were affected, four of which were "smuggled animals." Officials in Malaysia report that the outbreaks were due to the illicit movement of cattle from the FMD-infected area in Thailand. Control measures have been implemented including trivalent vaccination.

Rinderpest in Saudi Arabia. The only official information regarding an outbreak of Rinderpest in eastern Saudi Arabia states that four cases of the disease were found in unvaccinated animals. The November 30, 1992, report identifies quarantine and vaccination as the control measures taken.

Hog Cholera in Eastern Europe. Two outbreaks of hog cholera (HC) have been identified by Lithuanian Veterinary Services in the western and northern

regions of this country. The total number of breeding and fattening swine affected in the outbreaks were 7,990 with 1,091 cases. Quarantine and vaccination programs are underway. In Croatia, two HC outbreaks have resulted in the destruction of all 471 affected breeding and fattening pigs on two private farms. The early December outbreaks occurred in the districts of Valpovo and Zagreb and epidemiologic investigations to determine the source of infection are continuing. Control measures reported are: stamping-out and vaccination of all pigs over 45 days of age in both districts. [OIE Disease Information 5:163-169, 1992] ■

Lab Notes and DxNEWS Article Submissions are Encouraged

Readers of the DxMONITOR Animal Health Report are encouraged to submit items suitable for "Lab Notes" and the "DxNEWS." All articles should be typed double spaced. Photos/artwork should be camera ready copy. If possible, please provide your article on diskette and indicate what type of software was used to create/store the file (i.e., WordPerfect, Word Star). Send submissions to the address on the inside back cover of this issue. APHIS-International Services Plant and Animal Health Update, December 1992. ■

Data Submission Software Update Coming Soon

The DxMONITOR Data Submission System (DDSS) is being updated to include new diagnoses/agents as identified by the DxMONITOR Committee. The system will also accommodate the change in reporting accessions instead of total tests for the calf and piglet diarrheas.

It is hoped the new software will be available prior to the data submission deadline for the Summer issue (June 1993). Updated copies will be sent to current holders of the system upon completion. ■

Free Data Submission Software Available

The DxMONITOR Data Submission System (DDSS) is available free of charge to any laboratory interested in participating in the Veterinary Diagnostic Laboratory Reporting System (VDLRS).

To use the DDSS, data must first be captured by a laboratory in whatever manner works best for that particular laboratory. The summary totals of those data are then entered into a data entry screen which is provided as part of the DDSS. A computer file is automatically created for use in transferring the data. A reference guide leads the user through this process.

Because the system was written within a software package called "Epi Info," a copy of this program and a user's guide are also included. Epi Info was developed by the Centers for Disease Control and the World Health Organization. It has many capabilities including data analysis, word processing, and statistics.

Please contact the address on the inside back cover of this issue for more information about the DDSS. ■

1993 Membership Application

American Association of Veterinary Laboratory Diagnosticians, Inc.

P.O. Box 6023, Columbia, MO 65205/Telephone (314) 882-6811

The purpose of the American Association of Veterinary Laboratory Diagnosticians is the dissemination of information relating to the diagnosis of animal disease, the coordination of the diagnostic activities of regulatory, research and service laboratories, the establishment of uniform diagnostic techniques and the establishment of accepted guides for the improvement of diagnostic laboratory organizations relative to facilities, equipment, and personnel qualifications.

Any laboratory worker engaged in the field of animal disease diagnosis or in allied fields involving teaching, research, commercial, or regulatory functions is eligible for membership and is invited to join.

- ☐ Full Member \$40.00: Annual Membership Dues
- ☐ Graduate Student/Resident Member \$25.00: Annual Membership Dues

Please remit in U.S. dollars. Outside the USA, remit by draft on a U.S. bank or by International Postal Money Order.

Dues include a subscription to the *AAVLD Newsletter*, an AAVLD membership roster, and the *Journal of Veterinary Diagnostic Investigation*.

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Institution/Lab _____

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Interest/specialty _____

Materials available from the VDLRS are listed below. Send this clip-out order form to:

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Reporting System
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(Quarterly report of VDLRS data)

_____ **Introduction to the VDLRS**
(An informational brochure)

_____ **Report of the 1991 DxMONITOR Committee Meeting** (August 1991)

_____ **Report of the 1990 VDLRS Planning Committee Meeting** (June 1990)

* The most recent issue of the DxMONITOR will be sent. If you want past issues, please call (303) 490-7800.

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Appendix

This section provides tables displaying the most recently reported diagnostic laboratory data.

Selected Diseases:

Bovine Leukosis Virus	30
Paratuberculosis	31
Equine Viral Arteritis	32

Appendix Calendar

Spring Issue -	<i>Selected Diseases</i>
Summer Issue -	<i>Calf Diarrhea Agents</i>
Fall Issue -	<i>Piglet Diarrhea Agents</i>
Winter Issue -	<i>Bovine Abortion Agents</i>

Key to Tables in this Section:

- Data are presented by laboratory of specimen origin and quarter of specimen submission.
- Values represent the number of positive tests (P) and the number of tests performed (T).
- Values reported in the "TOT" category represent all tests performed during the quarter. This category may include some tests for which a month of specimen submission was not known. Therefore, the sum of the quarterly values may not be equal to the "TOT" values.
- Data totals (positives and total tests) shown for "All Calves" include specimens of unknown bovine class and those from veal calves, in addition to specimens from beef or dairy calves. Thus, the sums of dairy calf totals and beef calf totals do not always equal the totals shown for all calves.
- Values reported for all diagnoses/agents are for quarters in 1992.
- In some cases, the reported total number of tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Abbreviations for laboratories used in the tables are:

ARVDL = Arkansas	CAVDL = California	FLVDL = Florida	GAATH = GA, Athens
GATFT = GA, Tifton	IAVDL = Iowa	KYMSU = KY, Hopkinsville	KYVDL = KY, Lexington
MNVDL = Minnesota	MOVDL = Missouri	NDVDL = North Dakota	NEVDL = Nebraska
NVSL = National	NYVDL = New York	OHVDL = Ohio	OKVDL = Oklahoma
ORVDL = Oregon	SCVDL = South Carolina	SDVDL = South Dakota	TXVDL = Texas
VAVDL = Virginia	WYVDL = Wyoming		

Appendix

Bovine Leukosis Virus

---- Quarter ----					
Lab	1/92	2/92	3/92	4/92	TOT
ARVDL P			43	37	80
T			115	249	364
CAVDL P	188	89	101		378
T	640	369	403		1412
FLVDL P	16	30	12	22	80
T	75	107	139	131	452
GAATH P	5	6	9	14	34
T	23	21	26	43	113
GATFT P	109	268	66	138	581
T	253	508	121	265	1147
KYMSU P	33	49	58	119	259
T	98	101	101	239	539
KYVDL P	161	301	112	63	637
T	481	776	253	160	1670
MNVDL P	168	101	61	98	428
T	421	685	297	370	1773
MOVDL P	5	2	0		7
T	317	206	92		615
NDVDL P	34	98	20	71	223
T	242	476	73	306	1097
NVSL P	3	11	2	5	21
T	13	27	3	25	68
NYVDL P	1301	832	820	634	3587
T	6225	5151	3840	4610	19826
OHVDL P	754	364	294		1412
T	2226	1676	966		4868
OKVDL P				276	276
T				511	511
TXVDL P	196	200	152	425	973
T	611	1089	779	1914	4393
VAVDL P	69	49	138	96	352
T	201	643	528	521	1893

Paratuberculosis															
Bovine						Ovine					Caprine				
---- Quarter ----						---- Quarter ----					---- Quarter ----				
Lab	1/92	2/92	3/92	4/92	TOT	1/92	2/92	3/92	4/92	TOT	1/92	2/92	3/92	4/92	TOT
ARVDL P			1		1										
T			4		4										
CAVDL P	4	3	3		10							0			0
T	25	18	8		51							2			2
FLVDL P	27	11	28		66						5		0		5
T	72	22	76		170						15		2		17
GAATH P		1	2		3										
T		1	2		3										
GATFT P	0	1	0		1										
T	1	3	2		6										
KYMSU P	11	16	30		57										
T	89	146	103		338										
KYVDL P	18	14	19		51										
T	61	99	50		210										
MNVDL P	31	27	5		63	1				1	2	1			3
T
MOVDL P	5	5			10										
T	43	31			74										
NDVDL P		2	2		4										
T		2	2		4										
NVSL P	23	25			48							0			0
T	203	353			556							3			3
NYVDL P		102	209		311		0	0		0		0	54		54
T		1036	2038		3074		1	2		3		17	192		209
OHVDL P	44	91			135	0	0			0	0	0			0
T	672	819			1491	2	6			8	1	1			2
SDVDL P		23	10		33		1			1					
T		70	108		178		1			1					
VAVDL P	2	36	0		38										
T	2	314	15		331										

Appendix

Equine Viral Arteritis

Lab	Quarter				TOT.
	1/92	2/92	3/92	4/92	
CAVDL P	15	7	1	12	35
T	226	118	109	65	518
FLVDL P	5	2	10	13	30
T	700	400	562	414	2076
GAATH P	0	0	2	2	4
T	8	19	38	15	80
GATFT P	0	11	0	0	11
T	53	22	17	8	100
KYVDL P	72	12	97	90	271
T	2584	954	6218	2773	12529
NVSL P	7	24	5		36
T	633	1157	746		2536
NYVDL P	72	38	33	53	196
T	582	335	766	535	2218
VAVDL P	0	0	4	0	4
T	14	17	74	11	116

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